

AUGUST, 1927
MONTHLY

No. 259

HITCHCOCK'S MACHINE TOOL BLUE BOOK

DIRECT MAIL ADVERTISING

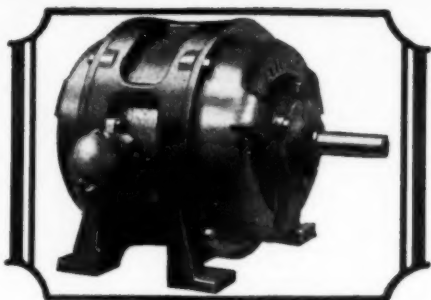
to

*Industrial Machine Shops
Automotive Plants
Railway Mechanical and
Purchasing Departments*

AND ALL OTHER
MACHINE TOOL
USERS

Controlled Circulation
25,000 Monthly

Published By
HITCHCOCK PUBLISHING CO.
508 So. DEARBORN ST.
CHICAGO



money saving directions/ *"lubricate once a year"*

Can you think of any easier way to make that motor-maintenance curve take a dip than to cut down lubrication to once in 12 months? You can start doing this at once by putting Reliance Ball-bearing Motors to work in your plant. You will soon discover that other advantages are lowering your upkeep charges and cutting down interruptions.

A good way is to try it out on some job where you think it can't be done.

Interesting information regarding anti-friction bearing motors is given in our illustrated Bulletin 400

Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, Ohio

Branches: Boston; New York; Philadelphia; Pittsburgh;
Cincinnati; Detroit; Buffalo; Chicago; Birmingham

RELIANCE MOTORS

with Ball  Bearings

WHO'S WHO

BY means of its controlled circulation, this publication covers those who are most worth while—the “Who’s Who”—among users and buyers of machine tools. (See page 77 for Analysis of Circulation by Commercial Ratings).

Over two thousand of the “Who’s Who” among the buyers were asked by letter if they made use of the Blue Book. Ninety-six per cent of the replies were in the affirmative.

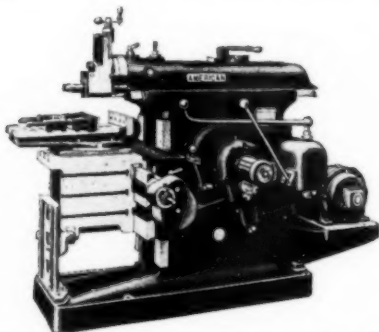
If ninety-six per cent of the aristocrats among users and buyers have placed their stamp of approval upon the Blue Book, then surely the aristocrats of the machine tool builders will find that it pays to meet them half way.

They will find the Blue Book a 12-times-a-year common meeting ground such as never before has been provided.

*Rules upon application to Hitchcock Publishing Co.,
508 So. Dearborn St., Chicago*

The New "Auto-Oiled" Shaper

[For the trade which buys the best]
[for the greatest ultimate economy]



Sharp competition and falling prices are forcing drastic shop economies. The ordinary shaper no longer answers the purpose. It may do the work, but at what cost? Even if your present shaper equipment is still good mechanically, you can reduce costs by disposing of it for what it will bring and installing the "American Auto-Oiled."

Its points of excellence are—Tremendous cutting power; unparalleled rigidity; permanent accuracy; automatic forced lubrication; multiple splined shafts; Timken roller bearings; multiple disc clutch and brake; V-type ram; improved table support; helical gears, alloy steel, hardened; tu-piece bull wheel; centralized control. Accessories and attachments for every conceivable kind of shaper operation.

Write for descriptive literature

It pays to keep posted

The American Tool Works Company

Cincinnati, Ohio, U. S. A.

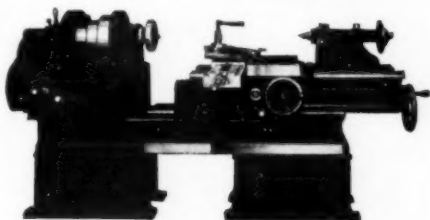
LATHES

RADIALS

SHAPERS

Sturdy Versatility

For Railroad and Jobbing Shops



Rahn-Larmon 18" to 36" Extension Bed Gap Lathe

Where versatility and sturdiness are the requirements, the Rahn-Larmon Lathes give exceptional satisfaction. That is why they are widely used in railroad and jobbing shops.

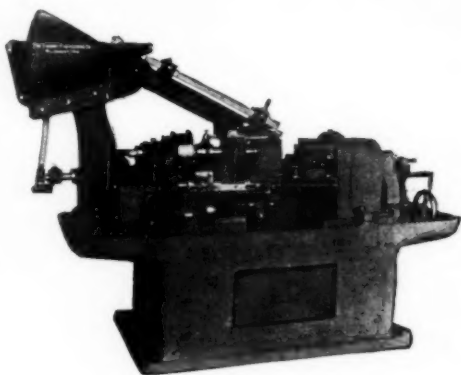
It is so stoutly constructed that it will absorb the shocks arising from the heaviest cuttings—yet there is no reasonable limit to the work it will do without special setting up or tearing down.

The initial expense is small, its versatility does away with extra equipment, and by materially increasing the output, it cuts labor and operating costs to the minimum.

Made in sizes 18"/36", 22"/40" and 28"/50" for A. C. or D. C. motor drives.

*Tell us your requirements and we will
show you how to cut your costs*

The Rahn-Larmon Co.
Cincinnati, Ohio



Economy Automatic Combined
Pointing and Threading Machines

**REDUCE
BOLT COSTS**

THE ECONOMY ENGINEERING

WHY ?

1st—One Man Runs Four Machines.

2nd—Machines Full Automatic—Eliminates Human Element.

3rd—Pointing Operation Free.

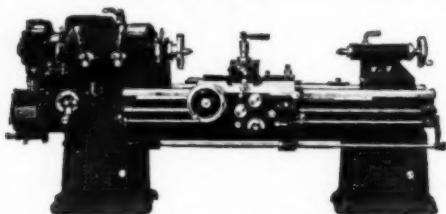
4th—Saves Handling From Pointer to Threader.

RESULT

Increased Profit for Manufacturer

G. COMPANY, - Willoughby, Ohio

Power — Accuracy — Economy



B & E 20¹ Engine Lathe [CONELESS]

This Lathe not only conforms to all that is accepted as standard in up-to-date Machine Tool construction, but is of ultra-modern design throughout, and embodies a number of exclusive features that insure accuracy, all-around economy and augmented production. Among the features that

Help Keep Shop Costs Down

are the following: ¶ Twelve main spindle speeds—absolutely selective, with thirteen gears that are always in mesh; ¶ Lathe spindle control by means of lever at the right-hand end of apron—with an auxiliary lever on same controller at end of headstock; ¶ Tailstock of the cutaway type, which permits swivelling of compound rest parallel with the shears; ¶ Double plate apron of the strongest construction possible, with mechanism so arranged that longitudinal and cross feeds cannot be engaged when screw-cutting; ¶ Gear box entirely enclosed, with steel gears throughout.

Full particulars gladly sent on request—sizes 18¹ to 36¹

SELLING AGENTS:

The Strong-Carlisle & Hammond Co.

1302 W. 3rd St., Cleveland, O.

1300 Fort S. W., Detroit, Mich.

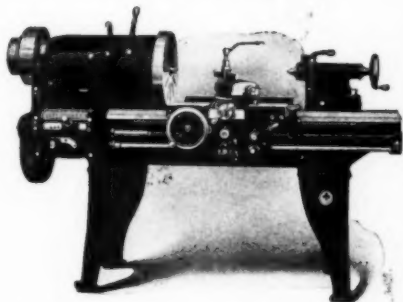
Niles-Bement-Pond Company

New York, 111 Broadway; Birmingham, 28 So. 20th St.; Boston, 75 Battery March St.; Chicago, 544 W. Monroe St.; Cincinnati, 338 West Fourth St.; Los Angeles, 464 East Third St.; Philadelphia, 2415 Chestnut St.; Pittsburgh, 1115 Empire Bldg.; Rochester, 89 East Ave. St. Louis, 1909 Washington Ave.; San Francisco, 917 Howard St.

The Boye & Emmes Machine Tool Co.

2245 Spring Grove Ave., Cincinnati, Ohio

LeBlond Heavy Duty LATHES



They embody the very latest developments and refinements in engine lathe design. While essentially heavy duty machines they embody operating convenience with accuracy that adapt them to the most exacting tool room requirements. They are built in a complete line of sizes, 13" to 36" swings with either cone driven or geared headstock, and are offered with the usual attachments.

Write for our literature

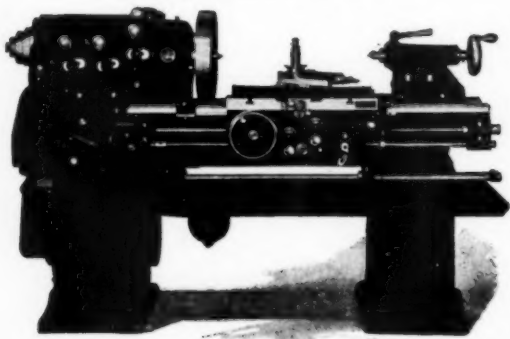
**THE R. K. LeBLOND MACHINE
TOOL COMPANY**

CINCINNATI,

OHIO

Monarch Ball Bearing Helical Geared Head Lathe

Is giving wonderful service



About 90% of our orders are for Helical Geared Head Lathes, and about three-fourths of those are re-orders.

That means that Monarch Helical Geared Head Lathes are giving wonderful service. It means that if you once used them, you also would order again as you need new lathes.

WHY? Because they are noiseless, smooth running and powerful. Because they have developed spindle speeds never before obtained in geared head lathes. Because they increase production and do better work. Because of their many features for quick and easy manipulation. Because of their ultra-modern design and construction throughout.

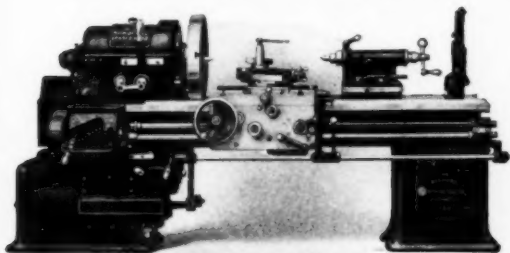
Made 14" to 30". May we tell you about them?

The Monarch Machine Tool Co.

Sidney, Ohio, U. S. A.

Bradford "All-Geared" Lathes

14" to 48" Quick Change Gear



18" Motor Drive, with Apron Control

When the requirements demand intensive production of quality work, on a quantity basis, the turning problems can be profitably solved with Bradford Lathes.

This "All-Geared" is beyond question the finest lathe of its type obtainable. Solidarity and resistance to stress are insured by careful placement of metal, and the up-thrust of the tool is balanced by the down-pull of the massive driving chain. Its construction combines enormous driving power with instantaneous and easily made feed changes. The resultant action is not only a guaranty of dependable precision, but of lasting precision as well.

Bradford "All-Geared" makes unusual provisions for rapid handling, and rigid, economical tooling set-ups. It reduces the time of each operation, and brings costs down on short runs as well as on long runs.

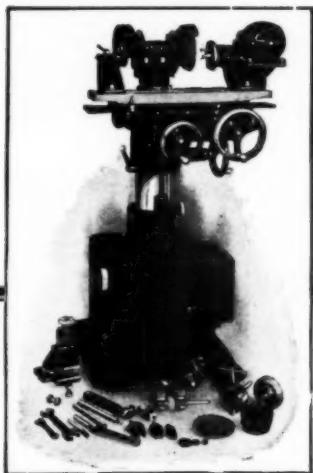
*Bradford's figures on your work will be of interest to you
Send in your blue-prints for a complete production estimate*

The Bradford Machine Tool Co.

Builders of Quality Lathes from 14 to 48 inches

Cincinnati, Ohio, U. S. A.

Established 1840



**Grand Rapids No. 1 Universal
Cutter and Tool Grinder
With Self-Contained Motor Drive**

OUR No. 1 UNIVERSAL, shown above, is an ideal machine for the shop using cutters, reamers and similar tools.

OUR No. 2 UNIVERSAL is much like the No. 1, with the addition of the scientific grinding of twist drills.

SPECIAL BULLETINS illustrate and describe these splendid machines, as well as our larger Nos. 3 & 4 Universal Cutter and Tool Grinders—also Grand Rapids Drill Grinders and Tap Grinders. Write for Bulletins of the machines in which you are interested. We shall be much pleased to send them.

Gallmeyer & Livingston Co.

342 Straight Ave., S. W., Grand Rapids, Mich.

Cutter and Tool Grinders

For All Classes of Work

No. 12
Cutter and Tool
Grinder



The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

Let us recommend the proper sizes for your work

LANDIS TOOL COMPANY
Waynesboro, Pa.

New York Office: 2007 Singer Bldg. Detroit Office: 5928 Second Blvd.
Chicago Office: 616 W. Washington Blvd.

FOOTBURT



A Single Spindle Footburt Sipp Sensitive Drill

**Made in three
sizes of single
and multiple
spindle models**

More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

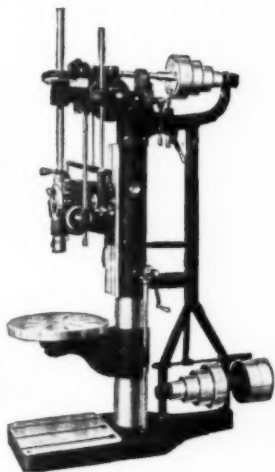
The Foote-Burt Company, Cleveland, O.

FOOTBURT

BARNES DRILLS

With
Stationary
Head, from
8 to 25-inch
swing

With
Sliding
Head, from
22 to 50-inch
swing



Write for full information

Established 1872

W. F. and John Barnes Co.
Rockford, Illinois

Profit 3-ways

Edlund Sensitive Single and Multiple Spindle Drills are made in styles and sizes to fit varied requirements. Each by its wide range, long service and great accuracy insures profit from three channels. This—

Edlund Sensitive Drill

No. 2B Column Type is no exception. It is equipped by special methods of power transmission—vibration elimination—friction minimizing and unfailing accuracy to—

Lower the Whole Cost—

Why? Because 3 speed changes can be made in a fraction of a second without stopping machine—because a special belt shifter allows shifting the belt from either side, because it trips with such accuracy that any number of blind holes may be bored without .004" variation in depth, and because full ball bearing equipment and perfected construction give a smooth, clean cut.

Edlund Mch. Co., Inc.
CORTLAND, NEW YORK

*Put your
problems
up to us.*

REMEMBER—
*Edlund for
drilling
economy.*



Drill

**Get this book
before you do your
1927 tooling**

—if not already using Avey Drilling Machines

Among the 20 sizes and types of Avey Drilling Machines you will find just the machine you want. Each is supreme in its class, backed by our absolute guarantee.

All-ball-bearing, automatic, semi-automatic or hand-operated—1 to 6 spindles—there's an Avey for every class of work and size of hole.

**The Avey Drilling Machine Co.
Cincinnati, Ohio**

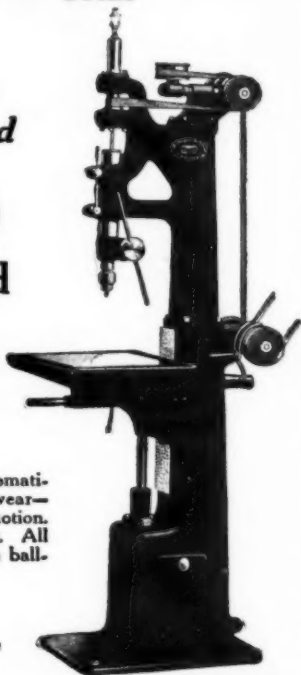
Demco
Drills

*The
Greatest
Hole Makers
ever Produced*

DEMCO
High Speed
Sensitive
Drilling
Machines

With a spindle that automatically absorbs its own wear—a spindle without lost motion. No lock nuts to adjust. All wear is confined to the ball-bearings.

*For sale by
machinery dealers in
all principal cities*



Model D 1-Spindle Floor Type

DEMCO DRILLS—Cleveland, O.

Division of

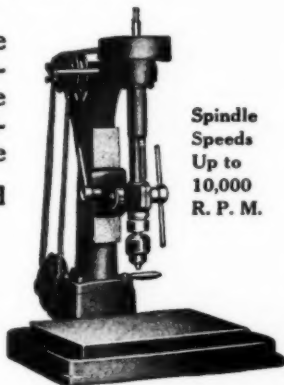
Merit Oil Equipment Co., Cleveland, O.

Don't Forget—

**Wood, Fibre, Rubber,
Paper, Mica, Bakelite**

as well as the
ordinary met-
als can be
drilled to ad-
vantage on the

**Leland-Gifford
Super-
High-Speed
Ball Bearing
Drilling
Machine**



**Spindle
Speeds
Up to
10,000
R. P. M.**

**Write us about this Drill to speed
up your drilling operations.**

Ask for Bulletin No. 502

Leland-Gifford Company, - Worcester, Mass., U.S.A.

BRANCHES

**BOSTON CHICAGO CLEVELAND
DETROIT NEW YORK
PITTSBURGH ROCHESTER**

AGENTS

Hendrie & Balhoff	Denver
F. E. Satterlee Company	Minneapolis
Colcord-Wright Mch. & Supply Co.	St. Louis
Herberts Machinery & Supply Co.	Los Angeles
F. F. Barber Machinery Co.	San Francisco
	Toronto

LELAND - GIFFORD



7" Horizontal Shaper 3½" Vertical Slotter

Combined in One Machine

A
High
Grade
Tool



Ideal
for
Light
Work

The Rhodes Combined Shaper and Slotter

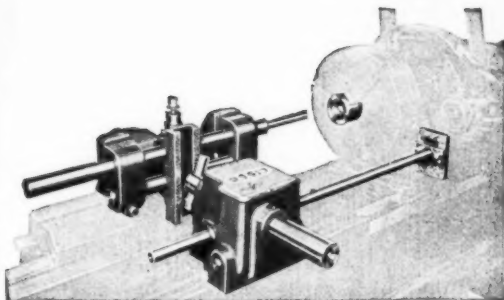
Is furnished in combination or separate—separate in both floor and bench type, and in combination in the floor type only.

It is high grade in every sense, with all the essentials of larger machines, and because of its light running and easy handling it is more efficient and economical on work within its capacity.

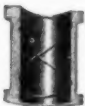
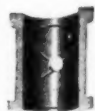
Ask your dealer or write for
CATALOG H22

The Rhodes Mfg. Company
944 Park Road, -> Hartford, Conn.

SHAPERS—RHODES—SLOTTERS



Speed Up A Slow Spot



Oil grooving has always been considered a slow spot in shop production, especially in shops where the quantity of oil grooving does not warrant the purchase of an oil grooving machine. For such cases, we have designed the **Cisco Universal Lathe Oil Grooving Attachment**. It is readily attachable to any lathe, from 14" to 24" inclusive, in a short time.

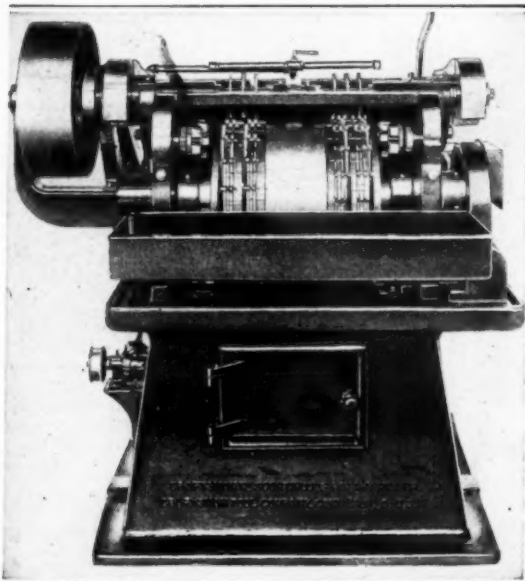
This attachment cuts single, double, triple, or quadruple oil grooves of the figure eight type, inside or outside the bearing. The depth of the groove is controlled by the operator. The diameter of the work ranges from $\frac{3}{8}$ " to the maximum capacity of the lathe used. Made in three maximum lengths of 6", 9", or 12"; the variety of work that can be oil grooved is very great.

If you have any oil grooving problems, write for our bulletin and let us explain this attachment in more detail.

The Cisco Machine Tool Co.
1700 Elmore Street, Cincinnati, Ohio

The Craftsman Continuous Rotary Miller

Made in Three Sizes—No. 1, No. 2 and No. 3

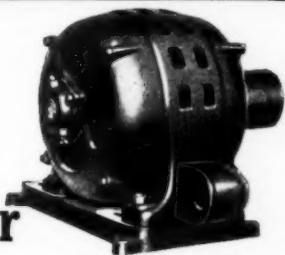


**For Castellating—Screw Slotting—Slab Milling
Straddle Milling—Plain Milling, Etc.**

Let us have your blue-prints or samples of small parts to be milled, and we will be pleased to submit production rates.

Manufactured by

The Sommer & Adams Company
18511 Euclid Ave., Cleveland, Ohio



The motor without a compromise

Whether sleeve-bearing or ball-bearing, Fairbanks-Morse Motors are built to standards that have gripped and held the confidence of thousands of veteran operating men—men who know motors.

Their capacity for sustained overloads is exceptional; outstanding mechanical stamina is at once apparent in sturdy frame construction and in broad, solid feet that *stay put*. In hundreds of applications, insulation is proving impervious to oil and water—even to caustic or acid fumes.

And these are merely telling examples of the uncompromising quality found in every detail of construction—quality that accounts for the ability of F-M motors to meet all conditions of drive, load or service.

Ask for special bulletins

FAIRBANKS, MORSE & CO., CHICAGO

28 branches throughout the United States at your service

FAIRBANKS-MORSE

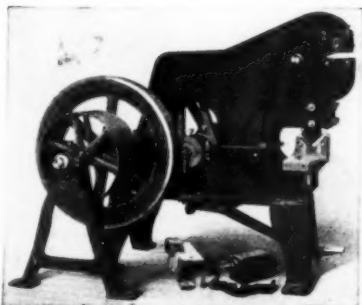
Pioneer Manufacturers of

ball bearing motors



AEA30.11

Punches—Shears—Bending Rolls
The Beloit
Combined Power Punch and Shear



Built in seven sizes. Nos. 51, 52, 53, 54, 55, 55½ and 56
Direct connected motor or belt drive

This is the best all around punch and shear in a combined machine of moderate cost. It is heavy and substantial, and amply back geared to require the minimum amount of power; is strong, compact, and easy to operate. Can be equipped with angle shearing attachment, architectural jaw, or for special work.

We make a complete line of punching and shearing machinery in both power and hand tools, also light and heavy duty bending rolls.

We do not overrate the capacity of our machines.

Write for catalog and prices.

Hendley & Whittemore Co.
100 S. State St., Beloit, Wis.

Taylor & Fenn Belt Driven
No. 12 Spring Press



**UNIFORM BLOW
SPRING PRESSES**

Are made in
three sizes,
with either
single or
double action

Our No. 12 Belt Driven Spring Press, illustrated above, has a stroke of $3\frac{1}{4}$ inches. The foot treadle operates a safety clutch attached to the flywheel, which automatically stops the machine after each stroke regardless of whether the treadle is released or held down by the operator. The clutch can be adjusted for a continuous stroke if desired.

Descriptive circular gladly sent upon request

The Taylor & Fenn Co.
Hartford, Conn., U. S. A.

STOP Throwing Away Hack AND METAL CUTTING Band saws MILLING, SLITTING AND SCREW SLOTING SAWS

SEND TO US

By mail two saws and we will
resharpen them

FREE OF CHARGE

that you may see the work our
machines do.

IT COSTS TO SHARPEN

A Band or Circular Saw 5c.

A Hack Saw 2c.

ON ONE OF OUR MACHINES

Figure Your Saving

SAWS

with Teeth up to
32 to 1"

Can be salvaged
at a speed of
45 teeth a minute.

Makers of automatic machines for sharpening—Hack Saws, Hard Tempered Band Saws,
Milling, Slitting and Screw Slotting Saws and all Woodworking Saws

WRITE FOR CATALOG

THE WARDWELL MFG. CO.

Manufacturers of the largest line of Saw Filers made in U. S. A.

108 Hamilton Ave.,

CLEVELAND, OHIO

FALLS

CLUTCHES

For Transmission Efficiency



For ordinary power transmission with a steady, continuous load—for installations where the load is intermittent and severe—for machines with a starting torque greatly in excess of the running torque—for all speeds—in fact, for almost every individual requirement there is a Falls Clutch that will render the most satisfactory service.

Of simple, yet sturdy construction, Falls Friction Clutches provide a powerful, easily erected mechanism that gives lasting dependable performance.

Specify Falls Clutches. Handbook 17K, in addition to being a valuable treatise, describes the complete line in detail. Send for your copy.

The Falls Clutch & Machinery Co.
CUYAHOGA FALLS, OHIO

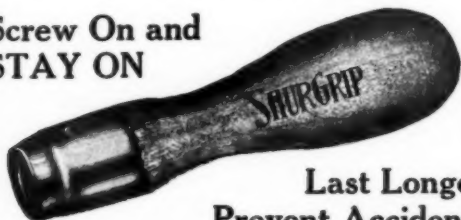
NEW YORK **CHICAGO** **BOSTON**
206-208 Fulton St. 625 Monadnock Block 52-58 Purchase St.

*Clutches—Shafting—Couplings—Collars—Pulleys and Belt Drives—Sheaves and
Rope Drives—Bearings—Hangers—Belt Tighteners.*

HYRO SHUR-GRIP FILE HANDLES

(Patented July 12, 1921—No. 1,384,154)

**Screw On and
STAY ON**



**Last Longer
Prevent Accidents
Hold File Rigid
Save Time and Labor**

*Standardized and Used in Shops where
Economy and Efficiency are Practiced.*



Made in Four Sizes

- No. 2—Length 4", for 3" to 6" files.
No. 3—Length 4½", for 6" to 10" files.
No. 4—Length 5", for 10" to 14" files.
No. 5—Length 5½", for 14" to 18" files.
-

Carried in Stock by Leading Jobbers

*Showing how
the hardened
steel thread
cuts its own
thread into
the tang of
the file.*

HYRO MFG. CO., Inc.
351-361 W. 13th St., New York, N. Y.



Ready for Heavy Duty Day After Day



3
Sizes

The "N" Series Taylor Welder is built to give service—unending, uninterrupted, dependable and economical service! It knows no word as "quit" unless you wish to have it do so. The Taylor "N" has countless features that render super-service at the lowest cost and insure maximum twenty-four hour production with minimum labor, effort and upkeep!

Write for interesting literature on the Taylor line of spot welders!

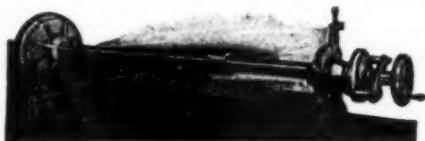
THE TAYLOR WELDER COMPANY
WARREN, OHIO, U. S. A.

There are none better than—

Type
"N"

TAYLOR SPOT WELDERS

Pedrick Lathe Boring Bars



There are many times when you could profitably use one of your lathes for boring—if you only had the proper appliances at hand.

We can equip you for such work with one of our Lathe Boring Bars. They are made in diameters from 2½" to 6" and various lengths, with a large assortment of cutterheads to meet miscellaneous requirements.

The lathe provides the power, and each bar has a two-change constant feed, hand-controlled or automatic. The bar is rigidly held and is easily taken down and reset without changing the alignment.

Put your boring problems up to us. We have all kinds of new boring machines, from our Standard Portable Cylinder Boring Bar to our new Floor Boring Machines.

Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia, Pa.

**Builders of Portable Cylinder Boring Bars, Crank Pin Turners,
Portable Millers, Pipe Benders, etc.**

Working For Production?

**Consider Catlin Keyseaters
For Speeding Up Your Work**



In ordinary shop practice, without any effort at record making, our machine has cut a keyseat 10" long, 1½" wide and 7/16" deep, in three minutes, through a cast iron hub. In the hub of a cast steel wheel, it has cut a keyseat 6" long, 1" wide and 7/16" deep, in three minutes.

Faster Work

On some classes of work, it is possible to keyseat piece after piece without clamping down the work or stopping the machine.

*We will be glad to mail you our Catalog
and send you detailed information.*

Chattanooga Machinery Company

2401 Bennett Ave., Chattanooga, Tenn.



“Rarefieds” Save Power!

Knickerbocker quotes from a letter:—

“This reduction in horse power is a great thing. Today we are operating the entire department with two 10s and one 5, making a total of 25 horse power, and before the installation of your ‘Rarefied’ Dust Collectors we used 45 h. p. to do the same work.” *Name of customer on request.*

That's the experience everywhere—in big plants and small ones, and with all kinds of heavy and cutting dust—the “Rarefied” saves power and repairs, assuring big economy and long life. It collects the dust and discharges it automatically before the air reaches the fan, which eliminates all cleaning out by hand.

Our explanatory Booklet is yours for the asking

THE KNICKERBOCKER COMPANY
JACKSON, MICHIGAN

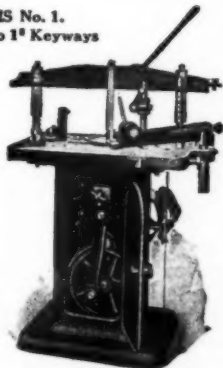


Speedy Keyseating

On a Great Variety of Work—

The "Davis"

DAVIS No. 1.
Cuts $\frac{1}{16}$ " to 1" Keyways



Built in two sizes

The Davis Keyseater is profitably used on quantity production of standard parts; yet it is so versatile and lends itself to such quick set-ups, that it is indispensable for the mixed runs of every day job work.

It occupies little floor space and gives such service cutting keyways, oil-slotting and grooving pulleys, gear blanks, bell cranks, crank handles, etc., that it soon pays for its moderate cost. You'll wonder how you ever got along without a "Davis."

The table of cutting time tells the story

Davis Keyseater Company

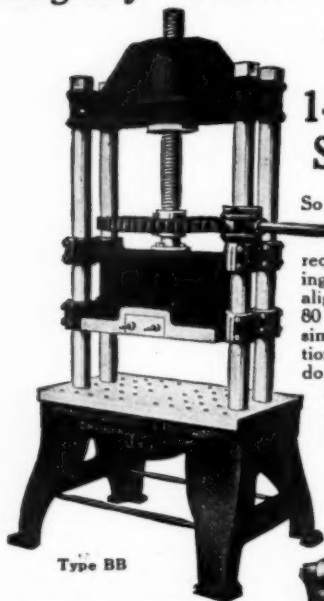
255½ Mill Street,

Rochester, N. Y., U. S. A.

Rigidity—Power—Economy

Are Combined
In This

1-Man 4-Post Screw Press



Type BB

So powerful is this machine that your tool-maker will require no help in handling any dies.—Its perfect alignment, its delivery of 80 tons pressure, and the simplicity of its operation, enable one man to do more work in less time than two men can do on any other type of screw press.

Also three smaller sizes

A Surface Grinder

that is a revelation in quiet efficiency. Its rigidity insures accuracy; feeds have graduated dials—runs silently without chatter.

Details and price on request

**JARECKI MACHINE
AND TOOL CO.**

Department A

GRAND RAPIDS,

MICHIGAN



Genesee Hollow Mills

With Adjustable Replaceable Blades
Are Productive, Accurate, Economical



PRODUCTIVE—because their seven sizes cover the entire range from $\frac{1}{8}$ " to 2", and machine all sizes within their capacity to 1000ths of an inch.

ACCURATE—because the hollow mills cannot change in size or clog with chips as do solid tools. They can be ground to any angle required to point work or turn sharp tapers.

ECONOMICAL to buy, because one Genesee Hollow Mill covers several sizes—economical in upkeep, because they outlast from five to seven ordinary tools; then too the blades are replaceable at a small cost—economical in operation, because they give a maximum efficiency, cutting up to 15" a minute in steel, or to capacity of machine.

Send for detailed information

Genesee Manufacturing Co., Inc.

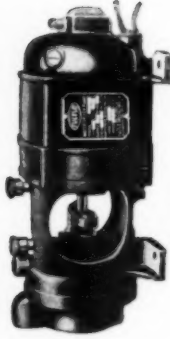
141 North Water Street, Rochester, N. Y.

Manufacturers of Genesee Rapid Production Tools.

Est. 1908



GRINDER PUMP



MOTOR DRIVEN UNITS
1/2 to 5 H. P. 5 to 75 G. P. M.

VOLUME PUMPS

36 **FULFLO delivers coolant in volumes which promotes efficiency in cutting tools.**

The full, copious flow from the Fulflo is needed to make the best tool, with the best coolant, most effective.

FULFLO does not clog, therefore it always

works. It's the trouble proof pump.

No machines stopped to unclog pump.
All the chips you can get into it pass through without harm.

FULFLO has longest life because its only pumping part does not wear.

MANUFACTURED BY

FULFLO SPECIALTIES CO., BLANCHESTER, OHIO

MARTINDALE Electric Etcher



For marking gauges, dies, gears, saws, tools, drills, shafting and all other articles made of iron or steel. It is much quicker and more satisfactory than the old paraffine and acid method. Writes like a pencil and burns the letters in the steel, making a permanent and legible record. **Price \$50.00 complete.**



MARTINDALE ELECTRIC CO.

1264 West 4th St., Cleveland, Ohio

Please send bulletin on Etcher to

8-27



They are not a new tool. If you order a set or a single mandrel you will know you are getting a practical and efficient article that has coped with all sorts of jobs where mandrels have been required in all kinds and classes of machine shops, during the past 30 years.

Write us for further information.

W. H. Nicholson & Co., 117 Oregon St., Wilkes-Barre, Pa.

Etchograph

Trade Mark



Patented July 8, 1915
Patent No. 1,308,160

Cut Tool Marking Time 80%

This Etchograph — "the original electric marker" — cuts by four-fifths the time ordinarily consumed in marking tool and machine parts. Its point scores any letter, figure or design on any metal, whether steel, steelite or iron. No skill or experience is required to operate it. Simply connect it with a light socket, and write as you would with a pencil.

William Brewster Company
50 Church St., New York

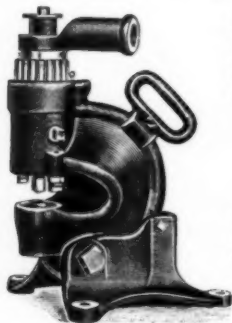
No. 10 Ball Bearing Punch



Weight 8½ lbs. Capacity ⅜-inch
hole through ¼-inch iron.

**Ball Bearing and Roller Bearing
Punches in many styles and sizes**

Ball Bearing Punch No. 40



Made of 45, 50 point O. H. Steel, drop forged. Very rigid —no springing in operation. Now provided with movable handle, to meet user's needs.

Capacity, ⅝" thru ⅞" iron
Depth of throat, 3½"
Height of throat, 2"
Weight complete, 87 lbs.

The elimination of friction insures more work at less cost in all Whitney Punches.

*Write for Catalog and Price
List on Entire Line*

WHITNEY METAL TOOL CO.
95 Forbes Street, Rockford, Illinois

To Industrial Plants Who Are Making Money

You are the largest buyers today of machine tools and shop equipment. For the mutual benefit of yourselves and our advertisers, we want to be sure that the Blue Book goes, without cost, to those in your plant who can use it to good advantage.

Quite a number of you, particularly among automobile manufacturers, have sent us lists of the prominent men in your organizations who are most closely identified with the planning of your improvements and the selection or purchase of your machinery.

If you have not done this, you are earnestly requested to send us such a list of names, so that we may mail the Blue Book regularly every month to those of your own selection, without cost or obligation of any kind whatsoever. Simply tear out this page, write the names on the reverse side, and mail it to the publisher.

Our only object is to make the Blue Book the best buying and selling medium on earth between the manufacturers of machine tools and shop equipment and plants such as yours, who are making the profits which warrant spending money for profitable shop betterments.

(See next page)

AUGUST....., 1927

HITCHCOCK PUBLISHING CO.,
508 S. Dearborn St., Chicago, Ill.

Please send your Machine Tool Blue Book, without cost, to the following members of our organization, who have to do with planning the equipment of our machine shops and the selection or purchase of our machine tools and other shop requirements:

(Give both names and titles)

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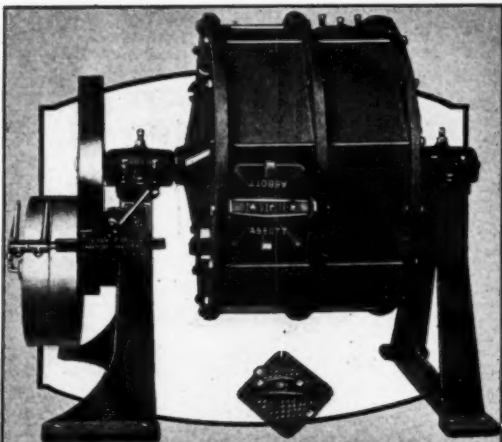
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It is understood that you are to use the above names as a mailing list for your Machine Tool Blue Book only, and that they will not be used for any other purpose.

Name.....

Street No.....

City.....State.....



Are Your Polishing Costs TOO HIGH?

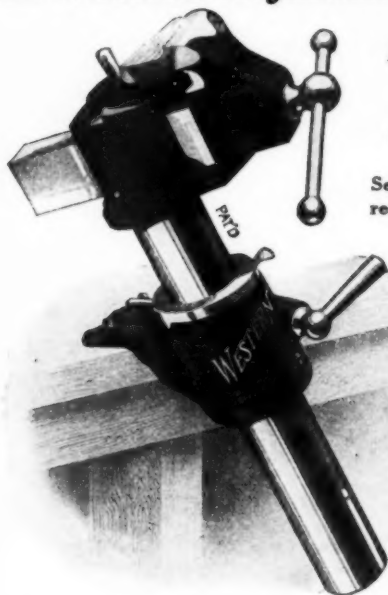
If so check up on the Abbott Ball Burnishing Process, for this is the most efficient, economical and fastest way in finishing small metal parts in volume. The Abbott line includes a machine for every kind of work and materials to burnish every shape.

Tell us about your finishing problem. We will gladly burnish a sample lot of your product and return to you with full details, there being no obligation, of course.

THE ABBOTT BALL COMPANY

"Originators of Commercial Ball Burnishing"
1043 New Britain Ave., Hartford, Conn.

The Western Adjustable Vise



*It pays
real
profits!*

See the seven
reasons below

Here are seven of many reasons why it pays:—

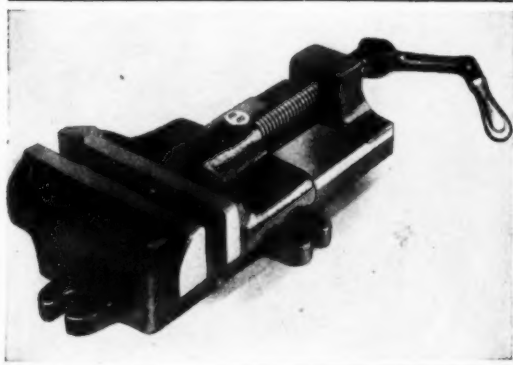
- (1) No limit to number of positions in either elevating or swiveling.
- (2) Easily and quickly positioned, and one lever locks all swivels.
- (3) It does not jump or rattle under chiseling or hammering.
- (4) It handles odd shaped pieces as well as ordinary shapes.
- (5) Any piece of work can be reached from all directions.
- (6) It leaves no excuse for spoiled work from not seeing lines.
- (7) It enables the vise hand to do more work and more accurate work.

*Write for Catalog, which describes this superior Vise, as well
as Champion Tool Holders, Expanding Mandrels, etc.*

The Western Tool & Mfg. Co.
Springfield, Ohio

A "BB" Machine Vise

The best all-around vise
on the market today.



No shop equipment is
complete without at
least one of these tools.

Price \$16.00

Best Value Ever Offered!

Write for descriptive circular

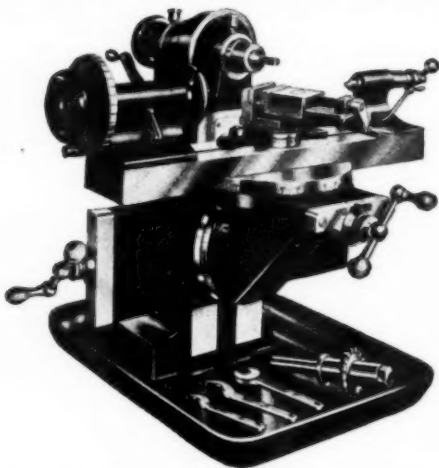
A. R. Marsh Machinery Co.

4900 West 73rd St., Cleveland, Ohio

Chicago Representative F. F. Brodie, 601 W. Monroe St., Chicago, Ill.

**SLOAN
and
CHACE**

Precision Tools



Sloan & Chace Bench Milling Machine

Our No. 2 Bench Miller is ideal for the tool room and experimental work. The table swivels both vertically and horizontally. The cutter spindle is identical with that of our No. 5½ Lathe Head, and all collets, arbors, etc., can be used on both machines. By means of adapters the work may be taken in the lathe head from the lathe to the milling machine and back again without resetting.

Our No. 3 Bench Miller is designed for straight milling—a strictly precision tool, although designed for manufacturing.

*Write for Catalog of Sloan & Chace Precision Tools
Bench Lathes—Millers—Gear and Pinion Cutters*

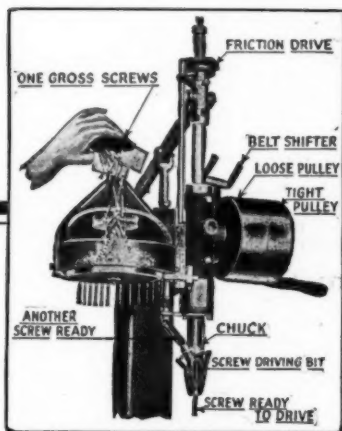
Sloan & Chace, Inc.

361 Sixth Avenue,

Newark, N. J.

Reduce Screw Driving Costs

65 to 85 Per Cent



Showing Magazine Feed of the Reynolds Automatic

Competition and falling prices are making the reduction of factory costs a stern necessity.

Any machine which reduces the cost of any mechanical process 65 to 85 per cent ought to be welcomed like a long-lost brother.

Let us know the length and gauge of screws you use, with dimensions over all of your work, and we will demonstrate how the Reynolds Automatic, with Magazine Feed, will make 15 to 35 cents do the work of a dollar.

The Reynolds Machine Company
Dept. H. H.,Massillon, Ohio



Armstrong Tools



Tool Holders

Over 100 shapes and sizes for every operation on Lathe, Planer, Shaper, Slotter, etc.—the only complete line. Better have our Tool Holder Catalog.

Ratchet Drills

For all purposes—"Packer," for rough service; "Standard," for general use; "Weston," extra heavy; "Universal," and "Short Ratchet." Ask for Ratchet Drill Catalog.

Drop Forged Wrenches

All kinds. All sizes. Highest quality. Write for Catalog of Steel Wrenches.

Clamps and Dogs

Drop forged. All shapes and sizes. Highest quality. Alloy steel screws. Separate Catalog.

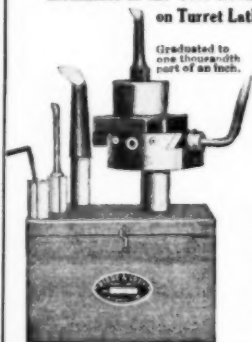
Armstrong Bros. Tool Co.

"THE TOOL HOLDER PEOPLE"

308 N. Francisco Ave., Chicago

R & G Adjustable Boring Tool

Invaluable in the Tool Room and on Production Work
on Turret Lathes, Horizontal Mills, Etc.



It saves time and insures accuracy in boring jig plates, dies, etc., on milling machine table and drill press, that cannot be handled on the lathe. It readily trues to size holes drilled on turret lathe.

Only \$38

If standard taper shank is required, the price is Five Dollars extra.

Send us your order or write for complete description of this handy, time-saving outfit.

Ribbe & Grey
La Porte, Ind.



New Type Machine *For* Rotary Filing Grinding and Polishing

Type RF-M 4. $\frac{1}{4}$ H. P.



For
Die Makers
And
All Kinds of
Metal Finishing
Of
Various Shapes
and Sizes
A Machine—
For
Many Purposes

Attach to the
Lighting Circuit

Attachments



EQUIPMENT

- Ball Bearing Hand Piece.
- 8 Assorted Rotary Files.
- 9 Assorted Grinding Wheels.
- 1 Rubber Polishing Drum.

Machine Complete as Illustrated

N. A. STRAND & CO.

Manufacturers

5001 No. Lincoln Street
CHICAGO

The **IMPROVED E-Z SET BORING TOOL**



Made in 3 Sizes

Compact, Simple in Construction, Positive Adjustment, TOOL
or PRODUCTION work—On Milling Machine, Boring Mill,
Drill Press, Lathe or Screw Machine.

Ask for our descriptive circular, with net prices.

IMPROVED E-Z SET BORING TOOLS
MAXWELL BORING TOOLS

M-P THREE TOOL TURRET
MILLING MACHINE SPACING WASHERS

The Maxwell Products Co.
Ottawa & Indiana Ave., Cleveland, Ohio

HARDINGE

The Cataract Line



For Supreme Service—

Because they meet the modern demand for superior accuracy and workmanship—ask for catalog

Hardinge Brothers Inc.
4149 Ravenswood Ave. Chicago Ill.



ALL TYPES:

**Spurs, Internals, Bevels,
Mitres, Helicals, Spirals,
Worms, Worm Gears,
Sprockets, Ratchets.**

ANY MATERIAL:

**Steel, Cast Iron,
Brass, Bronze,
Aluminum, Fibre,
Bakelite, Rawhide.**

Made in small and Medium Sizes, all of One Quality—the very best.
We also carry a full line of Stock Gears for immediate delivery. *Write us.*

Massachusetts Gear & Tool Co.

36 Nashua St., Woburn, Mass.

Curtis Universal Joints

of Simple, Rugged Construction



Send for new Catalog No. 47

BOSTON GEARS

BOSTON GEAR WORKS SALES CO.

Norfolk Downs, Mass.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO



Die Making Machines

save an average of 50%

Dies, templets, experimental parts, gages and the like can be sawed, filed and lapped on the Oliver of Adrian Die Making Machine much easier, more accurately and in a fraction of the time ordinarily required for handwork.

We also manufacture a line of

Point Thinners.

Drillpointers.

Profilers.



*Send
for
Bulletins*

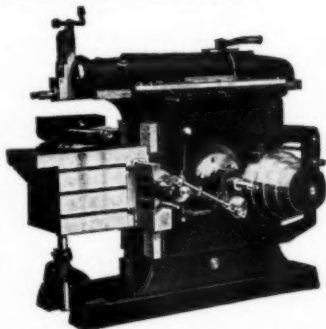
Oliver Instrument Company, 1408 Maumee St., ADRIAN, MICH.

SHAPERS

12", 14", 16"
Plain Crank,
16", 20", 25"
B. G. Crank,
either Cone
Driven or
through Speed
Box.

Belt Shifter
Regular Equip-
ment All Cone
Driven Shapers.

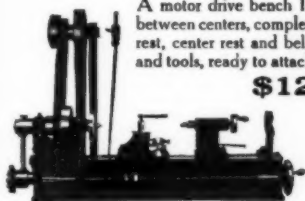
32" Back Gear-
ed Crank, Sin-
gle Pulley
Drive.



The Smith & Mills Co., Cincinnati, O., U.S.A.

Just-Rite Lathes

Made in Sizes from 10-in. to 20-in.



Has Power Feed

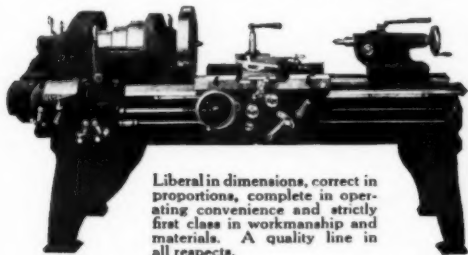
Order one by express. Weight, 230 lbs.

A. V. Carroll Machine Tool Co., Norwood, Cincinnati, O.

\$125

JUST-RITE
for turning,
boring, mill-
ing and drill-
ing (not screw
cutting.)

HAMILTON Rapid Production Lathes—Planers—Vertical Drills



Liberal in dimensions, correct in proportions, complete in operating convenience and strictly first class in workmanship and materials. A quality line in all respects.

Full particulars free on request

The Hamilton Tool Company, Hamilton, Ohio

Live Agents Wanted In Open Territory

Quick Work



If you want to do quick cutting of rods or flat stock, use one of these

Metal Shears

Write for Catalog No. H63 and prices

The W. W. Oliver Mfg. Co.
1495 Niagara St., Buffalo, N. Y.

12 Spindle Speeds—

And other features for modern needs.



C. & J.

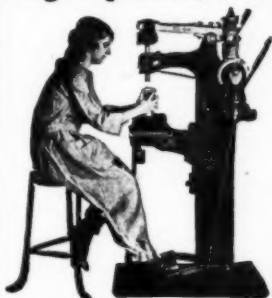
15/16-inch Geared Head
Motor Driven Lathe

Ask for further details

Carroll & Jamieson Machine Tool Co.
Batavia, Ohio

High Speed Riveting Hammers

(Patd.)



Cold Riveting

$\frac{1}{8}$ to $1\frac{1}{2}$ " in diameter

Write for
Catalog "C"

SEND SAMPLES

to be riveted and
returned with com-
plete production
data.

The High Speed Hammer Company, Inc.
311 Norton St., Rochester, N. Y.



Utility Tools Eliminate Trouble Points

All Utility Tools are self-salvaging—designed
along new lines that eliminate old trouble points.
Take as an example the—

Utility Interchangeable Counterbore and Spot Facer

- Its parts are interchangeable.
 - Pilots and cutters cannot twist off.
 - Set screws cannot loosen.
 - The cutters are instantaneously removable.
 - The drive is the utmost in simplicity and power.
- Get posted on **UTILITY TOOLS**; they incor-
porate features that make for greater tool economy.

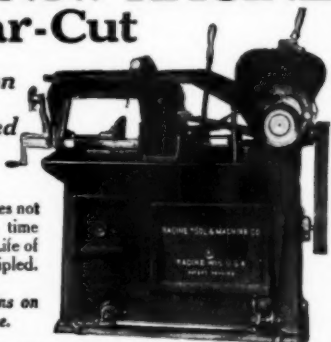
The J. C. Glenzer Company
6469 Epworth Blvd., Detroit, Mich.

The New RACINE Shear-Cut

***Production
Saw for
High Speed
Metal
Cutting***

Time per cut does not vary. Cutting time reduced half. Life of saw blades tripled.

Send for bulletins on complete line.



RACINE TOOL & MACHINE CO., 1429 Junction Ave., Racine, Wis.

Grant Rotary Riveter

**Makes Every Riveting Job
Both Easy and Satisfactory**

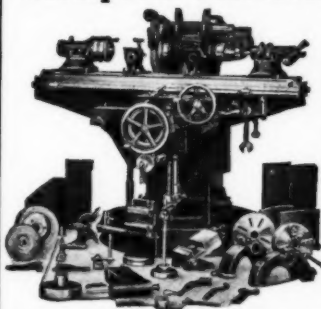
Its speed of one perfectly formed rivet every operating second—the convenience with which it places rivets in previously hard-to-get-at places, and its fool-proof construction that admits rapid operation by unskilled labor, all combine to make it a tool that you cannot overlook in figuring economical shop processes.

However, Actual Results are the most Convincing: Send us a sample for riveting. We will return it with full production data.

**The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.**



Thompson Universal Grinder



Does accurate,
economical grind-
ing, whether

**Plain
Surface
Edge
Die
Cutter
or
Internal**

as efficiently as a
single purpose
machine.

Write for bulletin

The new coarse cross feed for surface grinding—now ready

THE THOMPSON GRINDER CO., - Springfield, Ohio



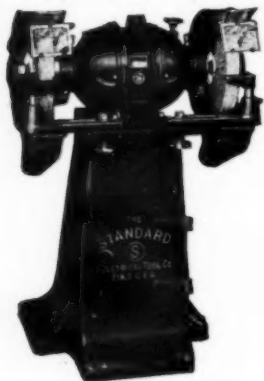
Grinds or Polishes

This job consists of grinding one side and squaring up another (2 ways) at one operation on the PORTER-CABLE Belt Grinder (smaller size). Better work in less time is the result.

*Ask us about its proved
economy on flat grinding*

**PORTER-CABLE
MACHINE CO
SYRACUSE, N.Y.**

Standard Ball Bearing Grinders



Made in sizes from
 $\frac{1}{4}$ H.P. up to 10 H.P.

Tool Post Grinders
 $\frac{1}{4}$ to 2 H. P.

Polishing and Buffing Lathes
 $\frac{1}{4}$ to 15 H. P.

Aerial or Hand Grinders
 $\frac{1}{4}$ to 3 H. P.

Bench Grinders and Buffers
 $\frac{1}{4}$ to 2 H. P.

Drills— $\frac{1}{4}$ " to $1\frac{1}{2}$ ".

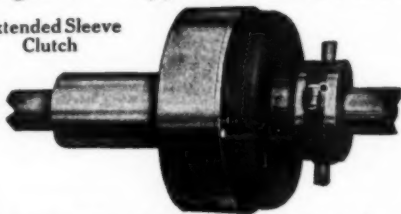
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**The Standard
Electrical Tool Co.**

1948 W. 8th St.,
CINCINNATI, OHIO

Edgemont "Type B" Friction Clutch

Extended Sleeve
Clutch



The "Type B" Friction Clutch is an improved expanding type. It fills the need of an efficient and inexpensive method of driving a large variety of machines.

Furnished in pulleys, extended sleeves and cut-off couplings.

Write us about your clutch troubles. We can solve them

Edgemont Machine Co., Inc., DAYTON, OHIO

The light that didn't fail—



was shining right down on the job, for it was easy to bring it there by means of an "AUTEX" swivel jointed extension reel.

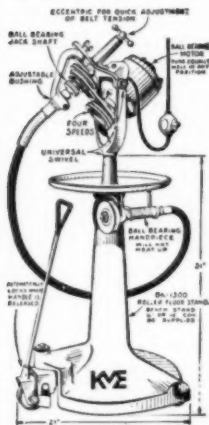
It surely saves time and speeds up the work in Machine Shops, Service Stations and Industrial Plants of every size. Soon pays for itself.

Approved by the Underwriters

Now equipped with Belden Rubber Cord

Write for descriptive circular and the low price

The Cincinnati Specialty Mfg. Co., Inc.
1903 Powers St., Cincinnati, Ohio



Keller "BK"

"The Machine of a Hundred Uses"

**1/4 — 1/3 — 1/2 — H. P.
SPEEDS UP TO 10,500**

**Non-Heating Shafts
Ball Bearing Handpieces**

**FILING— GRINDING—
POLISHING—DRILLING—
ETC.**

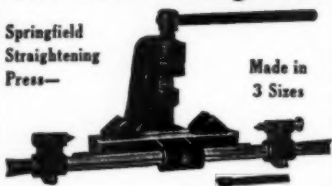
Tell us your problems

Keller Mech. Engineering Corp.,
58A Washington St., Brooklyn, N. Y.

(See Page 64)

Cut Your Straightening Costs

Springfield
Straightening
Press—



Made in
3 Sizes

Accurate
Straightening
Service in
Shop
Factory
Toolroom
Garage

The arrangement of the Springfield makes it the ideal tool for straightening any length of rough or finished work—truingsprung tools—or testing and balancing cams, crank shafts, etc. Placed on the bench it saves the operator's time by eliminating waste steps, and makes for quicker handling of the work.

Let us send you a folder illustrating its many uses

The Springfield Machine Tool Company

633 West Southern Avenue,

SPRINGFIELD, OHIO

We also manufacture Engine Lathes and Shapers

The Anderson
Ever-Ready

Balancing Ways



Are extremely sensitive and require no leveling—no adjustments—no centers.

Made of quality materials in several sizes to balance everything that revolves up to 24000 lbs. weight. You will find Andersons always ready, always accurate, and lasting in their service.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Bee	Bid	Bia	Bib	Ben	

Any of above can be furnished with longer shafts

Anderson Bros. Mfg. Co.

1915 Kishwaukee St., Rockford, Ill.

Hammer and Chisel

are valuable tools and are useful tools. However, for cutting internal keyseats—that is ancient history. This is the tool to use.

Get Catalog O for a guide

National Machine Tool Co.

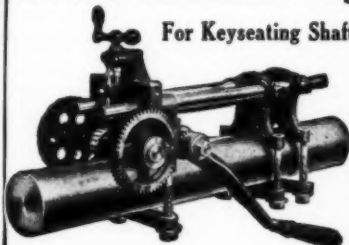
2268 Spring Grove Ave.,

Cincinnati, O.



Invaluable in Emergencies

For Keyseating Shafting in Place



**The Burr
Portable
Keyseater**

Without dismantling shafting or tearing down equipment, it cuts a perfect keyway 12" long, anywhere, in any position, in shafts up to 5" dia.

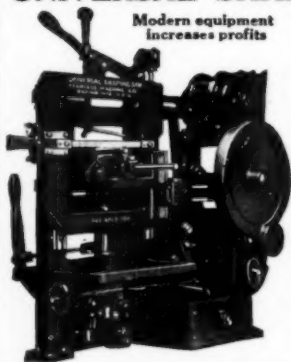
Have one on hand for your next emergency job. It will save you a vast amount of trouble and expense. Made in seven sizes, hand or power driven.

Over 10,000 in use—order yours today

JOHN T. BURR & SON

422 Kent Ave., Brooklyn, N. Y.

-PEERLESS- UNIVERSAL SHAPING SAW



Modern equipment
increases profits

**Different Principles
Greater Efficiency**
Give The Most Of—
**Speed
Accuracy
Blade Economy**

SIZES:

6"x6"--9"x9"--13"x13"

PEERLESS

HIGH SPEED HACK-SAWS

6"x6" 9"x9" 13"x16"

Sturdy--Efficient--Reliable

Peerless Machine Co.

1218 Sixteenth St.

Racine, Wisconsin

Write for Details

Use the Blue Book to Reach **The Big Manufacturers**

in all lines of business, in every state in the Union, who use machine tools in their plants.

It goes to more of them than any other publication on earth, because we mail it to them.

Our method is simple, as most good things are, and as effective as it is simple.

Write for rates and full particulars

Hitchcock Publishing Co.

508 S. Dearborn St.,

Chicago, Ill.

Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters: $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$, 3, $3\frac{1}{2}$ and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

Detroit Stamping Company
3443 West Fort St., Detroit, Mich.

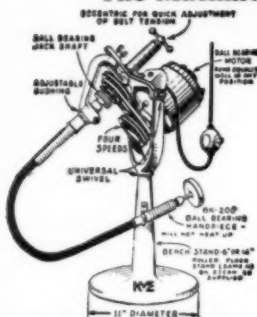
MARKING DEVICES



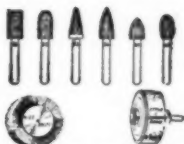
THE SCHWERTLE STAMP CO.
BRIDGEPORT, CONN.

Keller "BK" Flexible Shaft Grinder

"The Machine of 100 Uses"



$\frac{1}{4}$ - $\frac{1}{3}$ - $\frac{1}{2}$ H. P.
Speeds up to 10,500



COMPLETE LINE OF ACCESSORIES

Rotary Files—
Emery Wheels—Sanding Drums—
Wire Brushes, Etc.

Keller Mech. Engineering Corp., 58A Washington St., Brooklyn, N.Y.

(See Page 59)

Type C-4—One H. P.

MALL

Portable Electric Flexible-Shaft Grinding Machine

smoothing castings
by grinding before
painting.



MALL TOOL CO.,

7740 So. Chicago Ave.,
CHICAGO, ILL.

Makers of the largest assortment of Electric Flexible-Shaft Machines
and Attachments. Write for Catalog.

For Sure Balance--

an absolutely level and solid "Way" is necessary

Bowsher "Balancing Ways"



are brought to an absolute level in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground true, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

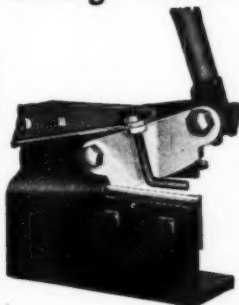
Three sizes for floor—one for bench use

Send for Catalog "F"

The N. P. Bowsher Co., South Bend, Ind.

Chicago Steel Slitting Shear

Light—Powerful
Durable



Capacity 10 gauge Sheets
Any Length or Width

Flat Bars 3/16 x 2 in.
Weight 22 Lbs.

Price \$12.50 Net

F. O. B. Chicago

Made by the makers of Chicago Steel Bending Brakes, Hand and Power, Over 25,000 in Use.

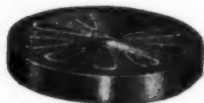
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DREIS & KRUMP MFG. CO.
7422 Loomis Blvd., Chicago, Ill.

"D & W" Flat & Rotary Magnetic Chucks



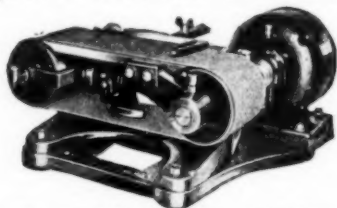
**Efficiency that
Compensates for
First Cost**



A special coil winding process is the unseen grip that gives J. & H. Magnetic Chucks their tremendous holding power, which long operating hours, atmospheric conditions and voltage variations cannot impair. It also makes them the ideal tool for holding pieces during milling, grinding, and shaping operations. Have you any chucking problems? Put them up to us; we will be glad to investigate them and make a report.

J. & H. Electric Co., 159 Clifford St.,
Providence, R. I.

Simplex-M Abrasive Band Grinder



**For Roughing, Smoothing or
Fine Finishing**

**Produces Straight Grain
Surface and Sharp Edges**

**Used on Metals,
Woods and Compositions**

Details of this and other styles and sizes on request.

WALLS SALES CORP., 96 Warren Street
NEW YORK

Handiest Racks Provide Safe, Convenient, Low-Cost Storage



By utilizing waste space—keeping stock properly sorted and making it easier to handle—

"The Handiest Racks"

fulfill everything their name implies.

Place them against the wall as single arm racks, or set them in pairs, in places otherwise unused, as double arm racks—they occupy but 13" floor space—and on their brackets you can sort and pile a great supply of pipes, shafting and bars. You will also find them invaluable for keeping stock at machine, saving steps, time and cost.

*Of course we ship on trial!
Better write today*

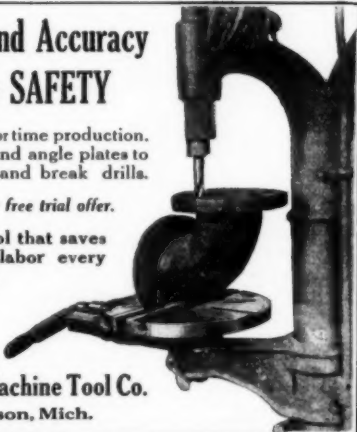
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503 Mahoning Road, N. E., Canton, Ohio

Speed and Accuracy *plus* SAFETY

Use set-up for time production.
No clamps and angle plates to
work loose and break drills.

Write for free trial offer.

A safety tool that saves
its cost in labor every
six months.



Modern Machine Tool Co.
Jackson, Mich.

If One Man Could Do It—



If he could do all your loading and unloading—your hoisting and trucking—what a saving in time and labor it would be. And one man can do it if he is furnished with a—

CanTon Portable Truck and Crane

He could raise, truck and place any load up to 6000 lbs. weight. Now CanTons can be equipped with the new *Safety Friction Brake*—a double assurance of safety to the operator and of efficient handling of the load.

*A size for every use
Write for booklet E-8*

Canton Foundry and Machine Co.
CANTON, OHIO



Tolhurst Chip Wringers
reclaim 6 to 15 gallons
per load and handle three
or four loads per hour.

Write
TOLHURST MACHINE WORKS
TROY, N.Y.

Long Life in
BRIDGEBILT
Factory Seating

Select the chairs and stools for your factory from this line. They will meet your particular needs and stand up under any wear you give them.

*Write for prices and
illustrated folder*



The Chicago Wire Chair Co.
616 No. LaSalle St., Chicago, Ill.

To Users Of
**Hollow Bored Forgings
and Steel Shafts**



Rams—Pistons—Clutch Shafts—Lathe Spindles—Hydraulic
Cylinders and Similar Jobs made to your Specifications.

Our Specialized Equipment—Skilled Labor and Experience,
Permit our Guaranteeing Quality, Service and Prices.

Send blueprint for trial quotation

American Hollow Boring Co.
Erie, Penna.



Multiple Drilling

On Your 1-Spindle
Drilling Machine

The U. S. Multiple Drill Head converts any single spindle drill into a multiple drill press with two to six adjustable spindles that will drill any pattern while utilizing the same speeds and feeds required for drilling one hole at a time.

Send your problems to our drill-head experts. If necessary, they can design special heads with fixed or adjustable spindles to fit your needs.

The United States Drill Head Co., 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

The U. S. is Accurate Simple, Rugged

This completely motorized, 14" sensitive floor drill can be relied on to give accurate, sturdy service drilling holes $\frac{1}{2}$ " and smaller.

Price with motor,
switch and belts - **\$115**

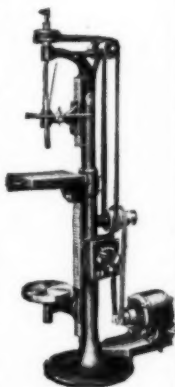
Or with Counter-
shaft for Belt Drive **\$70**

Made of quality materials according to the best mechanical practise. The spindle is provided with a ball thrust bearing, and is counterbalanced by weight inside column. There is a vertical adjustment to head, and tables are adjustable to any type of work.

Let us send you full mechanical details

The U. S. Machine Tool Co.

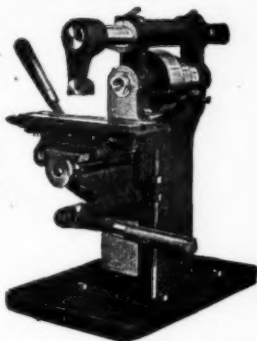
1952 W. 6th St., Cincinnati, Ohio



Our Specialties are Drilling, Tapping and Milling

BURKE

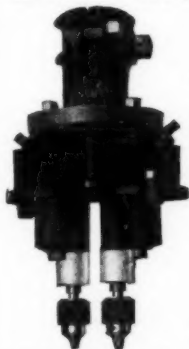
Power and hand feed bench milling machines built in six different sizes. One of these will exactly fit the job you have in mind.



*Write for full
particulars*

The Burke Machine Tool Co., 297 E. 16th St.,
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Buhr Multiple Driller



All Spur Geared

*Combines Adjustability
With Power*

The Buhr Multiple Driller has a detachable adapter that transmits power equal to the combined thrust of all the spindles. As a result these new multiple drilling and tapping heads not only drill in any pattern, but perform 80% of the work now done by fixed center heads.

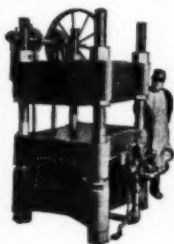
Figure the economy!

Special heads for close centers.

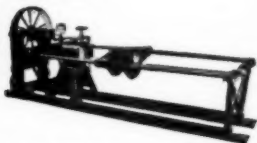
*Drop us a line; let us demonstrate
Buhr's worthwhile saving*

Buhr Machine Tool Co.
839 Green St., Ann Arbor, Mich.

Lourie Hydraulic Presses



A complete line of Horizontal and Vertical Presses built for any tons capacity or specifications. Either hand or power operated.



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SPRINGFIELD, ILL.

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For All Forcing Operations

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

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showing 30 different sizes*

Atlas Press Co.

*Department B,
Kalamazoo, Michigan*

**GITS
BROS.**

**Better
Oilers**

287 Styles & Sizes



GITS BROS MFG. CO.
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Announcing!



A New Size *Ettco* Tapper

No. 2—Capacity 0 to $\frac{3}{8}$ "

Anything that can be tapped by hand can be tapped with an Ettco tapper. The Ettco taps blind holes as easily as those which go through—and it eliminates broken taps.

There is no friction to adjust in the Ettco.

Production increased 100% to 500% on many jobs.

Don't condemn the taps you are using; try an Ettco tapper for ten days without obligation.

"Sensitive as
your Finger
Tips."

No. 1 Ettco Tapper—capacity $\frac{1}{4}$ -inch.

No. 2 Ettco Tapper—capacity $\frac{3}{8}$ -inch.

Eastern Tube & Tool Co., Inc., 600 Johnson Ave.,
BROOKLYN, N. Y.



"WEAR-EVER"

Self-Aligning Reamer Holders

For Screw Machines—Turret Lathes—Drill Presses

COMPENSATES for all irregularities in machine alignment. Reamer can float to one side, at the same time swing on an angle in any direction to align itself with the work.

THESE HOLDERS are made in five standard sizes for reamers up to 3" diameter. Adaptable to any style machine drive or reamer shank.

ORDER ONE ON APPROVAL

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2010 W. 13th Street, CHICAGO, ILL.

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DETROIT, MICH., - Gross & Heming, 704 Detroit Savings Bank Bldg.
NEW YORK CITY, - L. C. Biglow & Co., Inc., 250 W. 54th St.

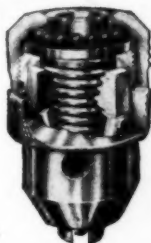
Etco Keyless Ball Bearing Drill Chucks

Tremendous Gripping Power

Seven good reasons for using the

ETTCO

1. Lighter in weight.
2. All hardened parts.
3. Keyless.
4. Hand operated.
5. Ball bearing.
6. Continuous grip.
7. Simple construction.



Eastern Tube & Tool Company, Inc.

600 Johnson Avenue, BROOKLYN, N. Y.

Winterhoff Portable Production Drills

No. 0 JUNIOR DRILL
10½" Swing, 0 to ⅜" Capacity



\$55, F. O. B. Elkhart

Equipped with ¼ h. p. motor, two step cone pulley giving speeds of 1100 and 2300 r. p. m., horizontal drive gives full power to the 1½" endless belt furnished with machine. Driven cone has bearing support at each end; all parts accurately machined and interchangeable. *Positively the greatest value* ever offered in a machine of this kind. Furnished with square machined base at same price.

**Drills, Grinders, Disc Grinders,
Saws, Sanders. All motor driven.**

*Send for circulars describing these
machines or see your Dealer.*

Winterhoff Tool & Machine Co.

109 South Elkhart Ave.,

Elkhart, Ind., U. S. A.



NORTH SIDE **Electric** **Grinders—Buffers**

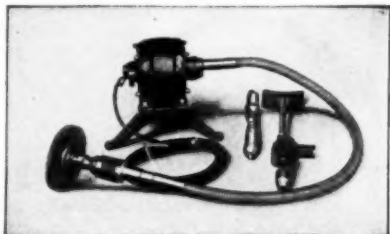
Built complete ready to run.
No extra wiring required.

SIZES— $\frac{1}{4}$, $\frac{1}{2}$ & $\frac{3}{4}$ H. P.
A. C. 110 or 220

The North Side Tool Co.
DAYTON, OHIO

The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy
grinding or polishing job



Send for our latest bulletin

Stow Flexible Shaft Co., 3454 Ludlow St.,
Philadelphia, Pa.

The Best Since 1876

Analysis of Circulation of
HITCHCOCK'S MACHINE TOOL BLUE BOOK
By Dun and Bradstreet Ratings

	Number Concerns
Exceeding \$1,000,000.....	1,483
\$500,000 to \$1,000,000.....	916
\$300,000 to \$ 500,000.....	948
\$200,000 to \$ 300,000.....	842
\$125,000 to \$ 200,000.....	1,305
\$ 75,000 to \$ 125,000.....	1,455
\$ 50,000 to \$ 75,000.....	1,162
\$ 20,000 to \$ 50,000.....	2,847
\$ 10,000 to \$ 20,000.....	1,879
\$ 5,000 to \$ 10,000.....	1,672

TOTAL, Private Concerns Rated over \$5,000.. 14,509

Steam and Street Railway Mechanical and
Purchasing Officials, Government and Muni-
cipal Plants, Technical Schools, Foreign
Dealers in American Machinery, Etc.,..... 3,470

TOTAL to Buyers of Known Responsibility.. 17,979

*Concerns quoted in Dun or Bradstreet, but
without Capital Rating..... 2,802

Concerns not yet in either Dun or Bradstreet,
but in current Telephone Directories..... 1,799

Concerns rated below \$5,000 2,677

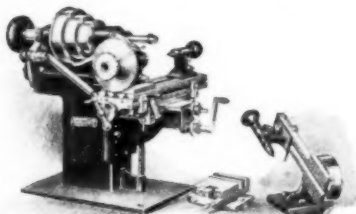
TOTAL CIRCULATION 25,257

*This group includes a considerable number of large concerns,
and many small concerns of high credit, whose capital rating is
not given by either of the commercial agencies.

HARDINGE

Cataract Better Work Bench Miller

Speed Accuracy Adaptability



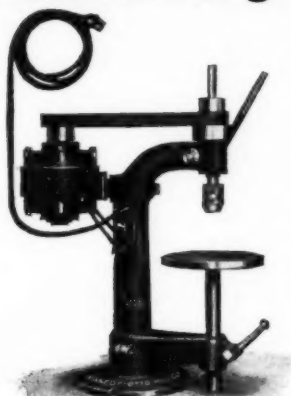
Many years of practical experience and designing has brought forth a miller which fulfills the demands of our day—speed, accuracy and adaptability.

Our *Cataract Bench Miller* has a wide range of feeds. It has independent steel indexes graduated to read to thousandths of an inch, and is equally well adapted for the lighter tool-room, mixed or production work.

*Complete data and interesting price
gladly sent on request*

Hardinge Brothers Inc.
4149 Ravenswood Ave.
Chicago, Ill.

Eliminating Vibration



Canedy-Otto

Sensitive Bench

Drill No. 29

Drills to a 10" center.

Capacity $\frac{3}{8}$ " diameter.

Run of spindle $2\frac{1}{2}$ ".

Run of table 7".

110 V.—60 Cy.—1 Phase

1100—2200 R. P. M.

\$44.00

Ready for the Job

Comes complete with Toggle Switch, Cord, Socket, Belt and Chuck

The vertical type ball bearing motor with which the Canedy-Otto No. 29 is equipped is attached in such a manner that the proper tension is constantly exerted on the belt, preventing loss of power. This design eliminates the use of gears and operates at high speed without noise or vibration.

All parts are accurately machined and balanced for high speed work. The spindle is so ground and fitted with ball thrust bearing and chuck that true running is insured.

Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

New York Branch
407 Broome St.

*Complete stock
carried at branches*

San Francisco Branch
955 Folsom St.

The Marvel Metal Band Saw



*Always ready
for any sawing
job, on either
large or small
work.*

*Write for big list
of satisfied users,
many of whom
have reordered*



Marvel Metal Band Saw No. 8

UNIVERSAL in its adaptation to every variety of metal sawing. It saws bars, beams, channels, tubes, etc., rapidly and accurately, and does the finest tool room work. Saws at an angle either way without swinging the bar around the shop. Has big capacity up to 18". The large bed gives lots of room for material and tools. A saw for every need.

Write for Circular or the Complete Catalog of MARVEL Saws

ARMSTRONG-BLUM MFG. CO., 341 N. 11th St.,

*Do your Hack Saw Blades break?
Or do they wear out too fast?*

Use the New Patented

Marvel High-Speed-Edge Hack Saw Blade

For Use In All Power Machines

**Genuine High Speed Steel Cutting Edge
Positively Unbreakable**



[Made in 12, 14, 17, 18,
21 and 24 inch lengths]

[6, 8, 10, and 14 teeth
to the in., in all lengths.]

One Company wrote:—"We have found that these blades last ten times as long as any saw which we have used in the past. They certainly have eliminated our troubles in our cutting-off department."

Once tried, you will want no other. Complete details and prices on request.

Points of Superiority

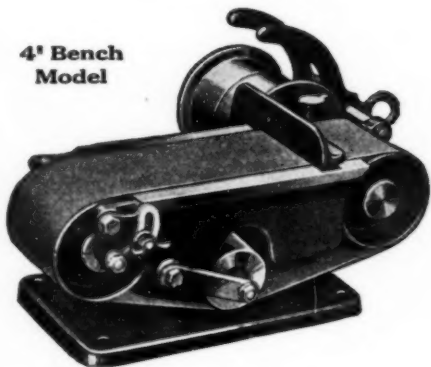
Guaranteed.
Original, patented.
Cuts twice as fast.
Positively unbreakable.
A straighter, truer cut.
Most economical, most efficient.
Genuine high speed steel cutting edge.
At least six times the amount of cutting.
Modern methods of manufacturing assure uniformity.

341 N. Francisco Ave., CHICAGO, ILL.

PEERLESS SURFACING MACHINES

for
**Grinding and Finishing
Flat Work**

**4' Bench
Model**



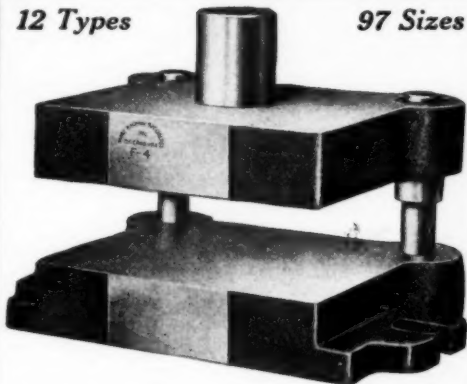
**Larger Machines in Both
Horizontal and Vertical Styles**

SEND FOR FOLDER

PEERLESS SURFACING MACHINE CO., Inc.
TROY, N. Y.

12 Types

97 Sizes



DANLY DIE SETS

Are particularly advantageous right now—because of the effort to obtain zero inventory and hand-to-mouth buying.

All types and sizes can be obtained from stock, from nearest warehouse, shipped express, ready for immediate use.

*Have you the new catalogue?
Ask for your copy*

Danly Machine Specialties, Inc.

2116 So. 52nd Ave., Chicago, Ill.

Long Island City, N. Y.
35 Wilbur Ave.

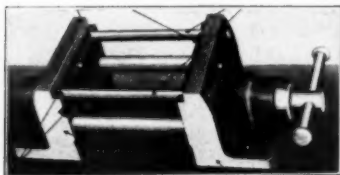


Detroit, Mich.
1537 Temple Ave.

4-Point "Demco" Drill Press Vise

Speeds up production, eliminates danger of spoilage, and easily handles shapes which have always given trouble.

Patented



It gives no less than three and generally a four-point support to any piece. Fragile work gripped without crushing. Round work, triangles and all irregular pieces are handled easily and gripped firmly.

No. 4 has 4" jaws, opens 4½" Price \$15.00 { Net F. O. B.
No. 8 has 8" jaws, opens 8½" Price 25.00 { Baltimore

Our descriptive bulletin is an eye-opener. Will you send for it?

DEMCO Inc., 105-115 S. Calvert St., Baltimore, Md.

Always Ready for Service—

Our Stock Room Service is complete. We can fill all orders the day they're received.

**BUCKEYE
BETTER BUILT
BUSHINGS**

These Stock Bushings come machined, ready for instant use. All are broached, burnished and *ground* to extreme uniform accuracy. Standard or special oil grooves or drilled holes at a small extra charge. Rigid inspection prevails.

We also make to *Blue Print*—bushings, bearings and cast bronze screw machine products in any quantity, any size, any analysis.



**COMMERCIAL
CORED, SOLID
BRONZE BARS**

Write for list of sizes carried in stock. Special sizes and castings upon request. Ask for Weight Chart.

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Sigourney Sensitive Drills

Plain or Ball Bearing
Belt or Motor Drive

WE MANUFACTURE sensitive drills exclusively. They are built for *service*, and in quality are unsurpassed.

SIGOURNEY DRILLS are made with one to four spindles. The illustration shows our one-spindle ball bearing drill. It has vertical adjusting head, adjustable table, three speeds, runs true and is very sensitive. *All parts are interchangeable.* Shipped belted ready for use.

Write for circulars and prices

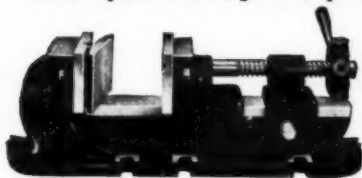
Sigourney Tool Co.

Hartford, Conn., U. S. A.



Gem Drill Press Vise

Holds tapered and irregular shaped pieces firmly



Made in
three
sizes
up to
10½ in.

ITS STRENGTH, capacity, adaptability and quickness of setting make it *the most efficient vise on the market.* Swivel jaw adjusts automatically to odd shaped pieces. Adapted to an unusual variety of drilling and milling operations. A big time saver. Worth more than it costs.

Write for folder, illustrating some of its many uses.

J. E. Martin Tool & Die Works, 528 W. State St.
Springfield, O.



"Borgeson Universal Joints"

Are you a user of Universal Joints?

If so!

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

SIZES: $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, $2\frac{3}{8}$.

Should you require Special Universal Joints, be sure to write for quotation.

*Complete description gladly
furnished upon request*

The Borgeson Mfg. Co., Inc.

Torrington, Conn.

HARDINGE

COLLETS



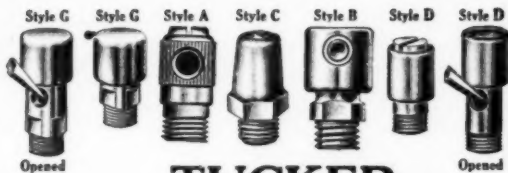
The Superior Excellence

of any product is almost invariably based on long, practical experience. It explains the dependable excellence of Hardinge Chucks and Collets.

We solicit your inquiry

Hardinge Brothers Inc.

4149 Ravenswood Ave. Chicago Ill.



TUCKER Oil Hole Covers

ALSO—HERCULES
SHEAR AND ROD CUTTERS
AND
SCREW MACHINE PRODUCTS
A Type for Every Service

Send for Catalogue No. 12



W. W. & C. F. TUCKER, INC., 612 Capitol Ave.,
Hartford, Conn.
FOREIGN AGENTS: Fenwick Freres & Co., Paris, France
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Repay Cost 5 Times a Year

Let us tell you about the BIG
Profits in TOWSLEY Trucks



Many Sizes and Styles
from \$10 up.

Efficiency
EXPERTS
say that

**TOWSLEY
TRUCKS**

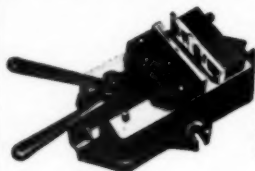
repay their
cost every
two to three
months.

Every style
for every
need.

Write us for details of the BIG truck profits today!

John T. Towsley Mfg. Co., Cincinnati,
Ohio, U. S. A.

Hartford Milling Vise



Jaw width5"
Jaw depth1¼"
Maximum opening...3½"
Weight.....40 lbs.

Also made in the swivel-jaw type with hard or soft jaws, maximum opening 2¼".

Simply release the cam handle of this unusual vise, and it lunges into action—set the eccentric-lever handle, and the ground drop forged jaws bind the work with *a grip that cannot slip*. Both of these operations can be performed simultaneously with one hand. This is one of the unusual features of the Hartford Milling Vise that have earned for it its reputation for efficient, quick-acting power.

Send for descriptive catalog illustrating its usefulness

Hartford Special Machinery Co., 285 Homestead Ave., Hartford, Conn.

E-Z THREAD DIAL

Thread cutting on engine lathes made easy, and at lower cost.

Can be easily attached to all size lathes.

A reliable device that will aid the operator in the work of cutting threads.

With it threads can be cut close up to shoulders as easily as the ordinary thread.



Eliminates stopping or reversing the lathe.

Does not require a backing belt.

The many repeat orders received prove it is satisfactory after trial.

A large corporation ordered thirteen, at one time.

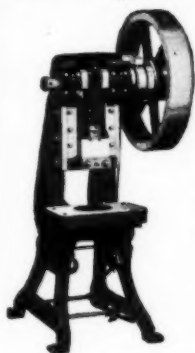
Another nine and another five.

Sent on thirty days' trial.

Send for folder today.

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The Spirit Of the Times



is reflected in the speed and stamina of Rockford High Duty Punch Presses.

They are built to produce and maintain Hi-Production—and they do it.

Wide range of sizes and types.

Write today for new catalog

Rockford Iron Works
Rockford, Ill.



T. H. L. Punches

**Insure Continuous and
Profitable Production**

Because they are made of the right quality of tool steel.

Because they are hardened with every care.

Because all our experience of 35 years is centered in making them accurate, rugged and dependable.

*Large stock of regular sizes
Special sizes quickly made*

T. H. Lewthwaite Machine Co.
311 East 47th St., (Est. 1890) New York City

Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

Write today for our Descriptive Catalog.

American Tool Works, Inc.
Hartford, Conn., U. S. A.



Why Waste Time On Broken Taps?

Every minute spent by your high-priced mechanics digging out broken taps is a dead loss. When a tap breaks it should be *removed quickly*—

The Walton Tap Extractor

Will do this! Its steel fingers back out the tap *without injuring the threads*. It will save you many hours in the course of the year—paying for itself over and over again. Made in three and four-flute styles.

So good we ship on 60-day trial

The Walton Company
Hartford, Conn., U. S. A.





"Ideal" for Low Cost Efficient Pumping

The single cylinder "Ideal" Electric Automatic Air Compressor and Exhaust Pump delivers two cubic feet of free air at 300 R. P. M. Quarter H. P. motor required for 200 lbs. pressure.

Price, pump only, \$22.50

← SINGLE CYLINDER

TWIN CYLINDER →

The twin cylinder pump delivers four cubic feet of free air at 300 R. P. M. Half H. P. motor required for 200 lbs. pressure.

Price, pump only, \$32.50

Equip your laboratory or factory with one—"Ideal" for use in connection with spray gun, glass blowing, etc.

PETRICK BROTHERS
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Auto-Gages For Dies

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Bousher Co., N. P., South Bend, Ind.

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Abbott Ball Co., Hartford, Conn.

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Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.

Barrels, Tumbling

Abbott Ball Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago

Bench Legs, Steel

New Britain Mchs. Co., New Britain, Conn.

Bending Machines, Hand and Power

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Hendley & Whittemore Co., Beloit, Wis.
Louthwaite Mchs. Co., T. H. 417 E. 31st., N. Y.
Lourie Hydraulic Co., Springfield, Ill.
Pedrick Tool & Machine Co., Philadelphia

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Hendley & Whittemore Co., Beloit, Wis.

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Foots-Burt Co., Cleveland, O.

Boring Bars

Pedrick Tool & Machine Co., Philadelphia

Boring Bars, Cylinder

Pedrick Tool & Machine Co., Philadelphia

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Landis Tool Co., Waynesboro, Pa.
Sommer & Adams Co., Cleveland, O.

Boring Machines, Horizontal

Avey Drilling Machine Co., Cincinnati
Pedrick Tool & Machine Co., Philadelphia

Boring Tools

Maxwell Products Co., Cleveland, O.
Ribbe & Grey, La Porte, Ind.

Brakes, Steel, Hand and Power

Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago

Brands, Burning

Schwerdtle Stamp Co., Bridgeport, Conn.

Bulldozers, Hydraulic

Lourie Hydraulic Co., Springfield, Ill.

Burnishing Equipment, Ball

Abbott Ball Co., Elmwood, Conn.

Bushings

Buckeye Brass & Mfg. Co., Cleveland, O.

Bushing Finishing Machines.

Economy Engineering Co., Willoughby, O.

Chucking Machines

New Britain Mchs. Co., New Britain, Conn.
Springfield Machine Tool Co., Springfield, O.

Chucks, Collet

Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

Chucks, Drill

Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Hartford Special Mch. Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago

Chucks, Drill and Tap

Scully-Jones & Co., 2012 W. 13th, Chicago

Chucks, Keyway Cutting

Scully-Jones & Co., Ry. Exch. Bldg., Chicago

Chucks, Magnetic

J. & H. Electric Co., Providence, R. I.

Clamps, Die

Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

Clutches, Friction

Edgemont Machine Co., Dayton, O.

Cold Saws

Burke Machine Tool Co., Conneaut, Ohio

Collets

Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

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Nicholson Co., W. H., Wilkes-Barre, Pa.

Couplings, Shaft

Nicholson Co., W. H., Wilkes-Barre, Pa.

Cranes, Portable

Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Canton Foundry & Mchs. Co., Canton, Ohio

Crank Pin Turning Machine

Pedrick Tool & Machine Co., Philadelphia

Cutters, Keyseating

Davis Keyseater Co., Rochester, N. Y.
Scully-Jones & Co., 2012 W. 13th, Chicago

Cutters, Milling

Genesee Mfg. Co., Rochester, N. Y.

Cylinder Boring Machines, Portable

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Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

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Peerless Machine Co., Racine, Wis.

Drill Tables and Vise

Modern Machine Tool Co., Jackson, Mich.

Drilling Machine Heads, Multiple

Huhr Machine Tool Co., Ann Arbor, Mich.
United States Drill Head Co., Cincinnati

Drilling Machines, Bench

Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.
High Speed Hammer Co., Rochester, N. Y.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.
Winterhoff Tool & Machine Co., Elkhart, Ind.

Drilling Machines, Flexible Shaft

Blax Flexible Shaft Co., 136 Liberty Street, New York

Drilling Machines, Horizontal

Barnes Co., W. F. & John, Rockford, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.

Drilling Machines, Multiple Spindle

Avey Drilling Machine Co., Cincinnati
Edlund Machinery Co., Inc., Cortland, N. Y.
Foots-Burt Co., Cleveland, O.
Kent Machine Co., Cuyahoga Falls, Ohio.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Portable Electric

Blax Flexible Shaft Co., 136 Liberty St., New York
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Mall Tool Co., 8389 S. Chicago Ave., Chicago
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 6091 N. Lincoln St., Chicago
Winterhoff Tool & Machine Co., Elkhart, Ind.

Drilling Machines, Post

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Drilling Machines, Radial

American Tool Works Co., Cincinnati, O.
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Sensitive

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Sigourney Tool Co., Hartford, Conn.

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Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.
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Taylor & Fenn Co., Hartford, Conn.
Western Tool & Mfg. Co., Springfield, O.

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Schwerdtle Stamp Co., Bridgeport, Conn.

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Brewster Co., Wm., Inc., 50 Church St., New York
Martindale Electric Co., Cleveland, O.

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New Britain Machine Co., New Britain, Conn.

Filing Room Equipment

Wardwell Mfg. Co., Cleveland, O.

Forges

Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Forgings, Hollow Bored

American Hollow Boring Co., Erie, Pa.

Furniture, Machine Shop

New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

Gauges, Taper

Hartford Special Mch. Co., Hartford, Conn.

Gear Cutting Machines

Sloan & Chace, Inc., Newark, N. J.

Gears

Boston Gear Works Sales Company, Norfolk Downs, Mass.
Massachusetts Gear & T. Co., Woburn, Mass.

Grinders and Buffers

Grant Auto Appliance Co., 2415 W. 14th, Chicago

Grinding Machines, Belt

Gallmeyer & Livingston Co., Grand Rapids, Mich.
Peerless Surfacing Machine Co., Troy, N. Y.
Wells Sales Corp., 96 Warren St., New York

Grinding Machines, Bench

Gallmeyer & Livingston Co., Grand Rapids, Mich.
Standard Electrical Tool Co., Cincinnati, O.

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Jarecki Mch. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical
Jarecki Mch. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mch. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Disc
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Porter Cable Machine Co., Syracuse, N. Y.

Grinding Machines, Drill
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.
Oliver Instrument Co., Adrian, Mich.

Grinding Machines, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
North Side Tool Co., Dayton, Ohio

Grinding Machines, Face
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Flexible Shaft
Biax Flexible Shaft Co., 136 Liberty Street, New York
Keller Mch. Eng. Corp., 58A Washington St., Brooklyn, N. Y.

Grinding Machines, Internal
Landis Tool Co., Waynesboro, Pa.
Mail Tool Co., 8389 S. Chicago Ave., Chgo.
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Portable Electric
Biax Flexible Shaft Co., 136 Liberty St., New York
Mail Tool Co., 8389 S. Chicago Ave., Chgo.
Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 8001 N. Lincoln St., Chgo.

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Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mch. & T. Co., Grand Rapids, Mich.

Grinding Machines, Surface
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Tap
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Grinding Machines, Tool
Kent Machine Co., Cuyahoga Falls, Ohio.
Standard Electrical Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Universal
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Hack Saw Blades
Peerless Machine Co., Racine, Wis.

Hack Saw Machines
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.

Hammers, Air
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hammers, Riveting
High Speed Hammer Co., Rochester, N. Y.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Handles, File
Hyro Mfg. Co., 352 W. 13th, New York.

Handles, Soldering Iron
Hyro Mfg. Co., 352 W. 13th, New York.

Hoists, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hoists, Portable
Canton Foundry & Machine Co., Canton, Ohio

Hydraulic Machinery
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Jigs and Fixtures
Hartford Special Mch. Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.

Keyseating Machines
Burr & Son, John T. Brooklyn, N. Y.
Chattanooga Mch. Co., Chattanooga, Tenn.
Davis Keyseater Co., Rochester, N. Y.
National Machine Tool Co., Cincinnati

Lathe Accessories and Attachments
Cisco Machine Tool Co., Cincinnati, O.
Maxwell Products Co., Cleveland, O.

Lathe Turrets
Maxwell Products Co., Cleveland, O.

Lathes, Bench
Hardinge Brothers, Inc., 1770 Bortean Ave., Chicago
Monarch Machine Tool Co., Sidney, O.
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Lathes, Engine
American Tool Works Co., Cincinnati, O.
Barnes Co., W. F. & John, Rockford, Ill.
Boys & Emmes Mch. Tool Co., Cincinnati, O.
Bradford Machine Tool Co., Cincinnati, O.
Carroll Mch. Tool Co., A. V., Cincinnati, O.
Carroll & Jamieson Mch. Tool Co., Batavia, O.
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Hamilton Tool Co., Hamilton, O.
Hardinge Brothers, Inc., 1770 Bortean Ave., Chicago
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Monarch Machine Tool Co., Sidney, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Springfield Machine Tool Co., Springfield, O.

Lathes, Extension Bed Gap
Rahn-Larmen Co., Cincinnati, O.

Lathes, Foot Power
Barnes Co., W. F. & John, Rockford, Ill.

Lathes, Gap
Carroll Mch. Tool Co., A. V., Cincinnati, O.

Lathes, Manufacturing
Sloan & Chace, Inc., Newark, N. J.

Lathes, Precision
Sloan & Chace, Inc., Newark, N. J.

Lathes, Short Bed
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Porter-Cable Machine Co., Syracuse, N. Y.

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- Lathes, Turret**
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Burke Machine Tool Co., Conneaut, Ohio
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- Milling Machines, Spine**
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- Milling Machines, Universal**
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- Nut Setters, Flexible Shaft**
Blox Flexible Shaft Co., 136 Liberty Street, New York
- Oil Cups**
Gits Bros. Mfg. Co., 1940 S. Kilbourn Ave., Chicago
- Oil Extractors**
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- Oil Hole Covers**
Tucker, W. W. & C. F., Inc., Hartford, Conn.
- Pattern Shop Machinery**
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- Pinion Cutting Machines**
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- Pins, Leader And Dowel**
Dandy Machine Specialties, Inc., 4913 Lincoln Ave., Chicago
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Fedrick Tool & Machine Co., Philadelphia
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- Polishing and Buffing Machines**
Claco Machine Tool Co., Cincinnati, O.
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New Britain Machine Co., New Britain, Conn.
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Standard Electrical Tool Co., Cincinnati, O.
- Presses, Arbor**
Atlas Press Co., Kalamazoo, Mich.
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Lourie Hydraulic Co., Springfield, Ill.
- Presses, Drawing**
Lourie Hydraulic Co., Springfield, Ill.
- Presses, Flanging**
Lourie Hydraulic Co., Springfield, Ill.
- Presses, Foot**
Rockford Iron Works, Rockford, Ill.
Taylor & Fenn Co., Hartford, Conn.
- Presses, Forcing**
Lourie Hydraulic Co., Springfield, Ill.
- Presses, Forming**
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Lourie Hydraulic Co., Springfield, Ill.
- Presses, Power**
Hendley & Whittemore Co., Beloit, Wis.
Lourie Hydraulic Co., Springfield, Ill.
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- Presses, Punch**
Lewthwaite Mch. Co., T. H., 417 E. 31st., N. Y.
Rockford Iron Works, Rockford, Ill.
- Presses, Screw**
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Towsley Mfg. Co., John T., Cincinnati
- Presses, Wheel**
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Ruthman Machinery Co., Cincinnati, O.

Punch Press Feeds
Rockford Iron Works, Rockford, Ill.

Punch, Shear and Bender, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago

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Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
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Hyro Mfg. Co., 362 W. 13th, New York
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Whitney Metal Tool Co., Rockford, Ill.

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Punches and Dies
Hendley & Whittemore Co., Beloit, Wis.
Leathwaite Mch. Co., T. H., 417 E. 31st, N. Y.
Rockford Iron Works, Rockford, Ill.

Racks, Bar Stock
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Yobe Supply Co., Wm. S., Canton, O.

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Schellenbach-Hunt Tool Co., Cincinnati, O.

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Nicholson & Co., W. H., Wilkesbarre, Pa.

Reels, Extension
Cincinnati Specialty Mfg. Co., Cincinnati, O.

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Grant Mfg. & Mch. Co., Bridgeport, Conn.
High Speed Hammer Co., Rochester, N. Y.

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Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Leathwaite Mch. Co., T. H., 417 E. 31st, N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.

Saw Sharpening Machines
Wardwell Mfg. Co., Cleveland, O.

Scraping Machines, Hand & Pneumatic
Anderson Brothers Mfg. Co., Rockford, Ill.

Screw Drivers, Electric
Independent Pneumatic Tool Co., 808 W. Jackson Blvd., Chicago

Screw Drivers, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty Street, New York

Screw Driving Machines, Automatic
Reynolds Machine Co., Massillon, Ohio

Screw Machine Products
Ruckeye Brass & Mfg. Co., Cleveland, O.

Screw Machines, Automatic
New Britain Mch. Co., New Britain, Conn.

Screw Slotters
Kent Machine Co., Cuyahoga Falls, Ohio.

Shafts, Flexible
Blax Flexible Shaft Co., 136 Liberty St., N. Y.
Keller Mech. Eng. Corp., 68A Washington St., Brooklyn, N. Y.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5901 N. Lincoln St., Chgo.

Shafts, Steel
American Hollow Boring Co., Erie, Pa.

Shaping Machines
American Tool Works Co., Cincinnati, O.
Osborne & Sexton Machy. Co., Columbus, O.
Rhodes Mfg. Co., Hartford, Conn.
Smith & Mills Co., Cincinnati
Springfield Machine Tool Co., Springfield, O.

Shears, Alligator
Canton Foundry & Machine Co., Canton, O.

Shears, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Dreis & Krump Mfg. Co., 7422 Leomin Blvd., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Leathwaite Machine Co., T. H., 417 E. 31st St., New York
Oliver Mfg. Co., W. W., Buffalo, N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.
Whitney Metal Tool Co., Rockford, Ill.

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Hendley & Whittemore Co., Beloit, Wis.

Slotting Machines
Rhodes Mfg. Co., Hartford, Conn.

Spacing Washers
Detroit Stamping Co., Detroit, Mich.

Special Tools and Machinery
Bradford Machine Tool Co., Cincinnati, O.
Sloan & Chace, Inc., Newark, N. J.
Stecher Co., Chan., 3482 N. Greenview Ave., Chicago

Sprockets
Massachusetts Gear & T. Co., Woburn, Mass.

Stamps, Steel and Rubber
Schwerdtle Stamp Co., Bridgeport, Conn.

Stencils, Brass and Oil Board
Schwerdtle Stamp Co., Bridgeport, Conn.

Stools and Chairs, Factory
Chicago Wire Chair Co., 619 N. La Salle St., Chicago

Straightening Machines
Springfield Machine Tool Co., Springfield, O.
Towsley Mfg. Co., John T., Cincinnati
Whitney Metal Tool Co., Rockford, Ill.

Tap Extractors
Walton Co., Hartford, Conn.

Tapping Machines and Attachments
Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Leland-Gifford Co., Worcester, Mass.
Sloan & Chace, Inc., Newark, N. J.
Whitney Metal Tool Co., Rockford, Ill.

Thread Dials
Colven, J. M., Yonkers, N. Y.

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Gisco Machine Tool Co., Cincinnati, O.

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Av., Chicago

Tool Holders
Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

Tool Racks
Chicago Wire Chair Co., 619 N. La Salle St.,
Chicago

Tools, Boring
Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Lathe and Planer
Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Machinists'
Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Spot Facing
Gammox Mfg. Co., Rochester, N. Y.

Trucks, Machine Shop
New Britain Machine Co., New Britain, Conn.
Towsley Mfg. Co., John T., Cincinnati

Turntables
Canton Foundry & Machine Co., Canton, O.

Universal Joints
American Tool Works, Inc., Hartford, Conn.
Borgeson Mfg. Co., Inc., Torrington, Conn.
Boston Gear Works Sales Company, Norfolk
Downs, Mass.

Used and Rebuilt Machinery
Associated Machine Tool Co., 189 7th St.,
Brooklyn, N. Y.
Bath & Co., Cyril J., Cleveland, O.
Bennett Mch. Co., 50 Church St., New York
Bernstein & Co., Geo. M., 549 W. Washing-
ton Blvd., Chicago
Bertelette Machine Tool Co., Inc., Jersey
City, N. J.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Burns Machinery Co., F. W., Racine, Wis.
Carlson Machinery Co., Davenport, Iowa
Central-West Machinery Co., Cincinnati, O.
Cincinnati Mch. & Supply Co., Cincinnati, O.
Clark Machinery Co., Cleveland, O.
Clinton Mch. Co., 128 S. Clinton, Chicago
Colcord-Wright Mch. Co., St. Louis.
Co-Operative Machinery Co., Cleveland, O.
Delta Equipment Co., Philadelphia, Pa.
Denshue Steel Products Co., 74th and
Ashland Ave., Chicago
Eastern Machinery Co., Cincinnati, O.
Easley Machinery Co., E. L., 555 Washington
Bld., Chicago
Fitzsimmons-Cole Mch. Co., Pittsburgh, Pa.
Foster Machinery Co., Cleveland, O.
Haetten & Co., J. E., Inc., 50 Church St.,
New York
Harris Bros. Co., 35th & Iron, Chicago
Hill, Clarke & Co., 649 W. Washington
Hvd., Chicago
Hyman & Sons, Joseph, Philadelphia, Pa.
Irwin Mfg. Co., H. E., Cincinnati, Ohio.
Johnson & Sons Machinery Co., Wm. C.,
St. Louis, Mo.
Jones Machine Tool Co., Cincinnati, O.
Kinsey Co., E. A., Cincinnati, O.
Klauber Mch. Co., E. L., St. Louis.
Lucas & Son, F. B., Inc., Bridgeport, Conn.
McDonald Machinery Co., St. Louis
McMullen Mch. Co., Grand Rapids, Mich.

Used and Rebuilt Machinery Continued—

Marr-Galbreath Mch. Co., Pittsburgh, Pa.
Marsh Machinery Co., A. K., Cleveland, O.
Midland Equipment Co., 612 W. Van Buren,
Chicago
Mid-West Machine Tool & Supply Company,
Davenport, Iowa
Miles Machinery Co., Saginaw, W. S., Mich.
Molitor Mch. Co., Chas., 118 S. Clinton St.,
Chicago
Morey and Co., Inc., 408 Broome St., N. Y.
Morris Machinery Co., Inc., Newark, N. J.
Metch & Merryweather Machinery Co.,
Cleveland, O.
Nelson Machinery Co., Green Bay, Wis.
New Jersey Mch. Exch., Newark, N. J.
Niles Tool Works Co., Hamilton, O.
Norton-Broadway Mch. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne & Sexton Mch. Co., Columbus, O.
Passman Bros., 705 W. Washington, Chicago.
Pattison Supply Co., W. M., Cleveland, O.
Peninsular Machinery Co., Detroit, Mich.
Prentiss & Co., Henry, 149 Broadway, N. Y.
Purinton & Smith, Hartford, Conn.
Randle Machinery Co., Cincinnati, O.
Reeve-Fritts Co., 37 S. Desplaines, Chicago
Reliance Mch. Sales Co., Pittsburgh, Pa.
Rentschler & Co., J. P., 6722 N. Maplewood
Ave., Chicago
Riverside Machinery Depot, Detroit, Mich.
Russell Machine Co., Pittsburgh, Pa.
Saltzman, H. L., 809 W. Lake St., Chicago
Scott-Hanbach Machinery Co., 120 So.
Clinton, Chicago
Selfreast-Elstad Machinery Co., Dayton, O.
Severin-Tripp Machinery Co., 25 Church St.,
New York
Seyfert's Sons, L. F., Inc., Philadelphia, Pa.
Simmons Machine Tool Corp., Albany, N. Y.
Stucker-Humely-Wachs Co., 117 N. Jefferson
St., Chicago
Stoehr Machinery Co., A. M., 418 Mid-City
Bank Bldg., Chicago
Strafer, A. F., 30 Church St., New York
Strong, Carlisle & Hammond Co., Cleveland
Sun Machinery Co., Newark, N. J.
Syracuse Supply Co., Syracuse, N. Y.
Taylor-Hall Welding Corp., Worcester, Mass.
Tubor, Velick & Co., Inc., Lake & Desplaines
Sts., Chicago
United Mch. & Supply Co., St. Louis.
Wayne Machinery Co., Ft. Wayne, Ind.
White Mch. Co., A. D., 108 N. Jefferson
St., Chicago
Wickes Machinery Co., Jersey City, N. J.
Winterer, Herman L., Philadelphia

Valve Grinders
Independent Pneumatic Tool Co., 600 W.
Jackson Blvd., Chicago

Vises, Drilling Machine
Armstrong-Bium Mfg. Co., 841 N. Francisco
Av., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago
Demco, Incorporated, Baltimore, Maryland.
Martin Tool & Die Works, J. E., Springfield, O.

Vises, Machinists'
New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

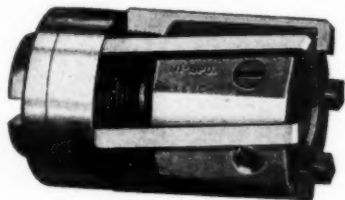
Vises, Milling Machine
Hartford Special Mch. Co., Hartford, Conn.

Welders, Electric Spot
Taylor Welder Co., Warren, O.

Wood Working Machinery
Handley & Whittemore Co., Beloit, Wis.
New Britain Machine Co., New Britain, Conn.
Porter-Cable Machine Co., Syracuse, N. Y.
Towsley Mfg. Co., John T., Cincinnati

Worms
Manacusetta Gear & T. Co., Webburn, Mass.

"X-L" Adjustable Inserted Spiral Blade Shell and Machine Reamer



Reamers made with Left Hand Angle Cutting Blades do not dig in, and all chatter is eliminated. This means free, clean cutting, smooth holes, and increased production.

The range of expansion is from .100" in the smaller sizes to .150" in the larger sizes. Made with High Speed Steel Blades.

This is a real production reamer. The left hand helical flutes cut fast and clean. Made only in high speed steel. Made with straight and tapered shanks.

All Sizes Carried in Stock

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118 Opera Place, Cincinnati, Ohio

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Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published in the Classified Section at the rate of **50 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted.

Write directly to those offering the machines for sale for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

Monthly Circulation of Machine Tool Blue Book, 25,000.

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Die filer, No. 3 Barry,	Pipe machine, 6" Merrill.
Drill, 4-spd. Barr, 1 cap.	Pipe machine, 12" Curtis & Curtis.
Engraving mach., No. 1-A Gorton.	Planer, 9"x7"x24" Federal bench.
Grinder, all-angle universal.	Press, No. 3 American Can, o. b. i.
Lathe, 10"x4" Star, c. r., chuck.	Press, No. 3 Consolidated, o. b. i.
Lathe, 14"x6" Hamilton, new style.	Screw mach., No. 3 Foster, frict. hd.
Lathe, 19"x8" Economy, p. c. g.	Shaper, 16" Economic, crank.
Lathe, 9"x12" Sundstrand prod.	Shaper, 20" Cincinnati, b. g.
Muller, No. 3 Cincinnati, plain.	Spinning lathe, 24"x6" Schultz.

FOR SALE BY

The Central-West Machinery Co. 116-118 E. Water St., Cincinnati, O.

Drill, 20" Aurora, power feed, back geared, good condition.....	\$ 95.
Drill, 20" Aurora, tapping attachment, good condition.....	90.
Grinder, Landis 10"x30" universal, fair condition.....	175.
Lathe, 18"x 8" Sebastian, loose change.....	125.
Milling machine, No. 3 plain Kempsmith, geared feeds all directions, double back gear, 90% new.....	550.
Turret lathe, No. 4 Milholland, bar and chucking equipment, good cond.	450.
Planer, 26"x26"x14" Lodge & Davis, one head, good buy.....	350.
Turret lathe, 3"x36" J. & L. geared head, geared feeds, first class cond..	450.

FOR SALE BY

H. R. Irwin Mfg. Co., Front & Pike Sts., Cincinnati, Ohio

Surplus Tools used for Jig and Fixture work. Condition-very fine. Will suit any buyer. Offered at attractive prices.

Engine lathe, brand new, 24"x10" LeBlond, 3-step cone, double back gears, quick change, clutch apron, cabinet legs, pan bed, pump, piping, beltshifter, face plates, countershaft, etc. A fine accurate tool for tool room or factory use. Factory price \$2,700.....	\$1,750.
Engine lathe, 17"x8" LeBlond heavy duty, 3-step cone, double back gears, quick change; fine condition.....	700.
Flat turret lathe, 34"x36" Cincinnati Acme, geared head, chucking equipment; never been used on heavy work; 95 to 98% new condition.....	1,000.
Gisholt 21" standard, 3 1/2" hollow spindle, 3-jaw chuck, 4-way tool post, taper attachment, gear box, tilting turret, pump, splash pans, countershaft. Only occasionally used. Its accuracy and new condition will suit any buyer.....	1,250.
Milling machine, LeBlond No. 0 size, table 8"x34"; very fine condition,	250.
Shaper, 20" Cincinnati, back geared, fine condition.....	800.
Turret lathe, S. & K., 1 1/2" bar capacity, power feed to turret, pan bed, pump, etc.....	150.

These tools can be inspected under the belt. They will please you.

USED AND REBUILT MACHINERY

FOR SALE BY

Herman L. Winterer,

943-53 N. Front St., Philadelphia, Pa.

LATHES.

43"x17' 4" Bement-Miles.
37"x14' Johnson d. b. g., q. c. f., t. a.
32"x12' Pittsburgh, heavy duty, q. c. g.
32"x15' American, cone type.
27"x12' Bullard.
26"x11' Wickes, q. c. g.
23"x10' Niles, q. c. g.
21"x8' LeBlond.
19"x10' Draper, patent head.
18"x10' Rahn-Larmon, q. c. g., taper.

18" x 7' Chard, d. b. g., semi q. c. g.
15"x 6' South Bend, plain change.
18"x8' to 8' lathes, (8).
16"x 6' American, q. c., pan bed, t. a.
15"x 8' Sidney, q. c., d. b. g., t. a.
14"x 6' Springfield, latest type, tool room type, t. a.
14"x 6' Lodge & Shipley, patent head, taper, pan bed.
14"x8' Lodge & Shipley, q. c.

TURRET LATHES.

34"x28" Pond, triangle.
3x36" Pratt & Whitney, hollow hex.
20x7' Bridgeport, 24", h. a.
19"x7' Fay & Scott, back grd.
No. 224 Garvin Monitor.
14"x 6' Warner & Sweeney.

No. 3 Foster sc. machines 1-5/16" wire feed, (2).
11"x9" Cincinnati-Acme, wire feed.
No. 4 B. & S., bar feed, all auto. fds.
No. 2 Smurr & Kamen, wire fd., (3).

DRILL PRESSES.

48" Almond, sens. radial, post type.
40" Barnes horizontal radials, (2).
26" Rockford, tapping attachment.
28" Aurora, sliding head.
34" Barnes, s. h., grd. fd., comp. tbl.

24" Foote-Burt heavy duty.
21" Aurora, b. g., p. f.
20" Sibley, back geared.
20" Prentice, plain, (3).
No. 14 Knight milling & drilling mch.

MILLING MACHINES.

No. 5 Cincinnati, table 94"x50 1/2".
No. 5 Brown & Sharpe vertical.
No. 3 Brown & Sharpe, plain, cone type.
No. 3 Hendey, q. c. g.

No. 1 Van Norman hand miller.
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.
No. 5-C Becker vert., rotary table.
No. 3 Rockford hand, power feed.

PLANERS AND SHAPERS.

48"x37"x9" Sellers, 2 heads.
48"x48"x12" Gray, 2 heads.
43"x36"x14" Cincinnati, 4 heads.
36"x36"x12" W. & P., 3 hds., m. d.
23" Woodward & P., crk., gear box.

48" Morton draw-cut shaper.
30"x30"x8" American, 1 head.
15" Lodge & Davis shaper.
21" Milwaukee, b. g.
24" Gould & Eberhardt, b. g.

BORING MILLS.

24" Bullard, rapid production.
Boring mill, car wheel, 60" Newton.
42" Bullard, 2 swivel heads, (2).

Boring, drilling and milling machine, 17 1/2" Bement Miles horiz.
Boring mill, No. 1 Sellers hor., 24" bar.

PIPE AND BOLT MACHINES.

1 1/2" National, bolt, m. d.
1 1/2" Acme, bolt, belt drive.
4" & 8" Eaton, Cole & R., pipe.

6" Cox, quick opening dies.
4" Armstrong, No. 00 pipe machine.

FOUNDRY EQUIPMENT.

No. 90 L. B. Pangborn automatic sand blast, with No. 10 Pangborn double section tank; and type "00"
No. 3 dust collector.
Tabor, split pattern power squeezers, 16" cyl., 17 1/2"x24", 4" draw, (2).

Millett stationary core oven.
Tabor, split pattern power squeezers, 13" cyl., 14x21", 4" draw, (8).
30" Tabor shockless jarring roll-over molding machines, 12" draw, cap. 1200 lbs.

MISCELLANEOUS.

Arbor press, No. 8 Greenerd, 36" bet. columns.
Brake, 80" D. & K., pan or box.
Centering mche., 8" Whiton, dbl. sp.
Cold saw, No. 6 Nutter & Barnes.
Elec. hoist, 1-ton Link Belt, 2 ph. a. c.
Electric hoist, 1-ton Shepard, 220 v., d. c., (2).
Grinder, No. 8 Diamond, double end, heavy type, (3).
Generator, No. 100 Oxweld acetyl.
Grinder, 13 1/2"x8" Landis universal.

Grinder, disc, No. 17 Besly.
Grinder, No. 7 Gardner disc, ball bearing, complete.
Grinders, several dbl. end electric.
Grinder, Dumore tool post, int. att.
Hammers, 15, 25 & 40 lbs. Bradley helve.
Hammer, 60 lb. Hotchkiss.
Hammer, 50 lb. Little Giant, belt dr.
Hammers, 60 lb. Bellefonte upright, 2.
Hammer, No. 3-B Nazel, m. d.
Keyseater, Morton 18" stroke.

USED AND REBUILT MACHINERY

Herman L. Winterer—Continued.

Keyseater, No. 4 Catlin, m. d.
Tire press, hyd., 60-ton Defiance.
Punch or gate shears, 72" Cleveland
multiple, 15" throat.
Punch press, No. 10 Bliss mult
Punch press, No. 4 Toledo, flywheel.
Punch press, No. 2 Cons., flywheel.
Punch presses, all sizes, (55).
Punch, No. 2 H. & J., 15" th., arch.
jaw, 1 1/2" in 1".
Punch & shear, No. 2 H. & J., dbl.
end, 20" th. cap., 1 1/2" in 1".
Punch & shear, No. 4 Long & A.,
double end, 24" throats.
Punch & shear, Oeking combination,
cast steel frame, cap. 1 1/2" in 13/16".

Riveter, 3/16" Grant, on column.
Riveter, air, 6" gap Allen, cap. 1 1/2".
Riveter, air, 6" Allen, cap. 1 1/2".
Riveter, stake, No. 6 Whiting, 60" th.
Saw, No. 7K Atkins Kwick-Kut.
Saw, Q. M. & S. No. 4-B universal,
33" blade.
Shr., No. 230 Niagara pwr. sq., m. d.
Shear, 52" P. S. & W. pwr. squaring.
Shear, squaring, 48" Ohl, 3/16" cap.
Shear, 8' Ohl, No. 20 ga.
Slotter, 14" Niles.
Slotter, 3 1/2" Rhodes vertical.
Tooth rounding machine, S. & S.
Woodworking mche., Sidney comb.

Send for our latest 44-page illustrated Catalog and Price List.

FOR SALE BY

Bennett Machinery Co.,

30 Church St., New York City

Boring machine, 4" Betts, knee type.
Boring mill, 51" Bullard, 2 heads.
Gap lathe, 36/60"x14" Harrington.
Lathe, 24/48"x18" McCabe, dbl. spdl.
Lathe, 28"x14" S. & B., taper att.
Lathe, 20"x15" Reed, 11" centers.

Lathe, 18"x10" Flather, q. c. g.
Lathe, 18"x8" Greaves-Klusman, grd.
hd., q. c. g., sgle. pulley, late type.
Pipe mche., 4" Bignall & K., m. d.
Shapers, 24" G. & E.; 26" Juengst;
16" Cincinnati; 15" Kelly.

FOR SALE BY

Brownell Machinery Co.,

150 Pine St., Providence, R. I.

BORING MILLS

51" Bullard vertical, 2 heads.
48" Bullard maxi-mill, 2 heads.

No. 1 Cleveland horizontal.

DRILLS

5' Prentice radial.
26" H. & R. sensitive radial.

25" Weigel, sliding head.
23" Prentice.

GRINDERS

No. 11 B. & S. pl. cylindrical, 4x30.
No. 1 Norton tool and cutter.

No. 2 B. & S. cutter & reamer.
20" Blount wet tool.

LATHES

30"x20" Fitchburg.
20"x10" Monarch.
16"x8" Reed.

14"x8" Hendey tool room, taper,
draw-in.
B. & S. dbl. spd. polishing & finishing.

MILLING MACHINES

No. 4-A B. & S. universal, s. p. d.
No. 1 1/2 B. & S. universal.
No. 3 G. H. LeBlond, heavy, plain.

No. 2 B. & S. vertical.
No. 4-B Becker vertical.
Whitney hand.

PLANERS AND SHAPERS

36"x36"x10" Woodward & Powell,
3 heads.
36"x36"x12" Gray, spur gear.

24"x24"x6" Whitcomb.
17"x20"x4" Whitcomb.
7" Rhodes shaper.

POWER PRESSES

No. 4 Manville Bros., ratchet dial
feed.
No. 4 Manville, s. a., p. p.
No. 2-A Standard s. a.

No. 2 Sidney inclinable.
No. 2-B Standard, d. a.
No. 68 Bliss, d. a., cam.
No. 1 Standard, power screw.

MISCELLANEOUS

Hand saw, 12" B. & R. metal cutting.
Broaching machine, No. 2 LaPointe.
Chain hoist, 10-ton Yale & Towne.
Filing machine, Thurston.
Magnetic chucks, 8x10, 110 v., d. c.

Screw machine, No. 2 Bardons & O.
Screw machine, 3x36 J. & L.
Screw machine, 1 1/2x18 P. & W.
Slotter, 12" Bement-Miles.

USED AND REBUILT MACHINERY

FOR SALE BY

Clark Machinery Co., 1235 St. Clair Ave., Cleveland, O.

Lathe, 24"x16' Schumacher & Boye.
Milling machines, universal and plain.
Planers, 28"x28"x8' and 42"x42"x8' Gray, 2 heads.
Radial drills, 3' American and 3' Prentice.
Screw machines, No. 4 and No. 6 Warner & Swasey.
Shapers, 16" Ohio and 20" Whipp, b. g.
Spinning lathes, Prybil 18".

FOR SALE BY

Syracuse Supply Company, 314 W. Fayette St., Syracuse, N. Y.

Guaranteed NEW MACHINES in original crates at prices below list:
Automatic, 24" Gridley, single spdl. | Screw mchs., No. 4 W. & S. g. f. h., (2).
Pipe machine, No. 70 Forbes. | Straightener, No. 24 Corey.

Exceptional values in USED TOOLS:

Automatic, 14" model A., Cleveland.
Drill, 4' Rickford radial.
Drill, 6' American univ. radial.
Drill press, 4-spdl National sensitive.
Drill press, 22" Prentice, rebuilt.
Grinder, 24" Safety Emery Wheel Co. snag grinder.
Grinder, surface, No. 2 Reed.
Grinder, Taylor & Fenn 20".
Lathe, 16"x8' American, geared head, rebuilt.
Lathe, 16"x10' American.
Lathe, 20"x12' Reed.
Lathe, 8x60 Fitchburg lo-swing.
Miller, No. 5 Becker vertical.

Miller, Oesterlein universal.
Millers, Wisconsin hand, (3).
Planer, 30"x30"x16' L. W. Pond.
Planer, 60"x60"x22' Niles.
Radial, 5' Pond.
Shaper and slotter, No. 1 Rhodes.
Thread miller, No. 12 Lees Bradner.
Tilted turret, No. 6 Wood.
Turret lathes, No. 4 Foster, (2).
Turret lathe, No. 3 Cincinnati Acme.
Turret lathe, 24x26 Pratt & Whitney.
Turret lathe, 3x36 Jones & Lamson.
Turret lathe, 2x24 Jones & Lamson.
Turret lathe, 21" Gisholt.
Turret lathe, 24" Steinle.

FOR SALE BY

Scott-Bansbach Machinery Co., 130 S. Clinton St., Chicago, Ill.

Guaranteed Used Tools.

Auto. sc. mch., B. & S. No. 19.	\$550.	Lathe, Porter-Cable prod.	200.
Auto. sc. mch., B. & S. No. 00.	500.	Lathe, 14"x8' Flather, q. c.	250.
Auto. sc. mch., B. & S. No. 00.	450.	Lathe, 14"x6' Bradford, comp. tool	
Auto. sc. mch., B. & S. No. 0...	550.	room equip., inc. relieving att.	800.
Auto. sc. mch., Cinti. 5-sp, 4" cap.	950.	Lathe, 14"x8' Hendey, taper & c.	500.
Bolt cutter, 2" dbl. hd. D. & H.	300.	Lathe, 20"x10' Bradford, pl. ch.	350.
Boring mill, Colburn vert. 30"	450.	Miller, No. 1 1/2 B. & S. univ.	750.
Boring mill, Morris horiz., mtr.		Miller, 42" Briggs (Gooley & E.)	500.
dr., with motor, 1-15/16" spdl.	1000.	Miller, auto. P. & W. No. 12 mtg.	600.
Buffer, 3 h. p. Gardner, 220 v.,		Miller, Ingersoll slab 42x36x8...	2250.
a. c., 3 phase, used 3 years.	200.	Oil separator, No. 400 Curtis.	300.
Buffer, 5 h. p. Hill Curtis, 220 v.,		Planer, 16"x16"x42" P. & W., 1 hd.	275.
a. c., 3 phase, used 90 days.	375.	Planer, New Haven, 24"x24"x6'	500.
Buffer, 3 h. p. U. S., 220 v., a. c.,		Press, grd., No. 8-M American	
3 phase, used 90 days.	250.	Can, 3" str. 25000 lbs., tie rod.	2000.
Drill, Avey 1-spindle, 3" diam.	200.	Punch, 48" throat Kling, cap.	
Drill, radial, 3 1/2 pl. Fosdick.	1100.	1"x1" pl. jw.	800.
Drill, American 4'	1150.	Riveter, No. 3A High Speed.	225.
Drill press, No. 310 Baker, (5) ea.	250.	Saw, cold No. 1 Cochrane & Bly	175.
Drill press, 24" Minster, heavy.	350.	Saw, 9"x9" Peerless high speed	175.
Grinder, No. 6 Gardner, 26" disc	400.	Screw mch. 4x4" P. & W. comp.	150.
Grinder, No. 1 Frazer surface		Screw mch. No. 1 W. & S. comp.	125.
and cyl., convertible complete	450.	Screw mch. No. 10 Foster, 3" cap.	700.
Grinder, No. 65 Heald. b. b. spd.	850.	Shaper, Averbek 24"	900.
Keyseater, No. 1 Catlin 14" cap.	250.	Shaper, 26" Stockbridge, b. g.	
Keyseater, No. 2 Davis, 1" cap.	100.	crank, h. d.	600.

USED AND REBUILT MACHINERY

FOR SALE BY

Marr-Galbreath Machinery Co.,

Air compressors, Curtis 7"x7" for mtr.
Auto grinder and borer, portable.
Bender, No. 9 Buffalo, hand.
Bolt cutter, 1 1/2" Morgan, double hd.
Bolt cutter, 1 1/2" Acme, triple head.
Boring mill, 96" Bickford, 2-heads.
Boring mill, 24" Bullard, side hd. m.d.
Boring mill, 42" Bullard, 2-heads.
Boring mill, 54" Bullard, 2 hds., m. d.
Boring mill, 16" to 36" Niles extension.
Boring machine, Rockford No. 2 horizontal, 3 1/2" bar.

Bulldozes, Nos. 2, 4, 5, 6 & 28, W.-W.
Bulldozers, Nos. 4 and 6 Ajax, m. d.
Channeling mach. No. 3C, K & R.
Derrick, steel, stiff lg. 15-ton, 60' boom.
Drill grinder, "W P & L," 3/60/220.
Drill, 22" Barnes, sliding head, b.g.
Forging mach., 3" Acme, steel, m. d.
Forging and rivet header, 1" Ajax.
Furnace, No. 27 Stewart, gas, 6"x12" door.

Gear cutter, No. 6 Brown & Sharpe.
Gear hobber, No. 4 Farwell with grs.
Grinder, cylinder, Hoenig, portable.
Grinder, No. 18-D Rowbottom.
Grinder, No. 24 Landis, 16"x48".
Grinder, No. 60 Heald, 19" arm.
Grinder, universal cutter and reamer, No. 3 Brown & Sharpe.

Hack saw, Atkins, cap. 8"x8".
Hack saws, No. 5 Marvel; No. 40 Economy.

Hammer 2500 lb. Chbg., s. f. steam.
Hammers, 40 lb. and 80 lb. Bradley.
Keyseater, No. 3 Mitts & Merrill.
Keyseater, No. 6 Mitts & Merrill.
Keyway cutter, 24" Morton, cap. 2 1/2".
Lathe 10"x6 1/2" Myers, chuck att.
Lathe, 24"x14" Porter, plain change.
Lathe, 26"x10" Walcott, q.c.g., d.b.g.
Lathe, 24"x10" Putnam, taper attach.
Lathe, 24"x12" Sch. & Boye, 3" blks.
Lathe, 14"x8" Monarch, q. ch. t. a.
Lathe, 32"x16" Bridgeford, gr. hd.
Miller, No. 2 B. & S. univ. index hd.
Milling mach., No. 3-B. Milwaukee, single arm.

Milling mach., Oesterlein, univ. No. 2
Milling mach., No. 6., Kemp Smith universal.

Milling machine, vertical, No. C. Becker, s. p. d.

Motor, 10 h.p. West. 3/60/220/860 rev.

Borer, Smith post, No. 451.
Cut-off saw, sw, F. & E. No. 75, m.d.
Jointer, Woods, 8".

58 Water St., Pittsburgh, Pa.

Milling mach., duplex Knight, table 8 1/2"x32".

Motor, 3 & 8 1/2 h.p. 220 v. d. var. sp.
Oil separators, 3 & 1 1/2 bu. cap.
Pinion cutter, No. 3 S. & C. 1"x1".
Pipe machine, 10" E. C. & B.
Pipe machine, 6" Oster, with dies.
Planer, 48"x48"x16" Pond, 4-hds., m.d.
Planer, 24"x24"x6" Gray, 1-head.
Press No. 175 Consolidated overhang, b. g., new.

Press, No. 5 1/2 Consol., o. b. l., b. g., new
Punch & shear, No. 51 Beloit comb.
Punch, coping, steel plate, 13" thrt.

36" die space 2 holes 1"x1", for m.d.

Radial drill, 2 1/2" Fosdick, t. a.

Radial drill, 3" Drees-Mueller.

Radial drill, 3" Prentice, g. b., t. a.

Radial drill, 4" Drees Simplex.

Riveter, Allen jaw, 36" cap. 1 1/2".

Riveter, 1/2" Shuster rotary, belt.

Riveter, 80 A. Grant, 1/2" cap. belt.

Roll, angle, No. 24 K. & R., cap. 6x6x1, m. d.

Roll, bending, 6"x1 1/2" Bertsch, d. e.

Saw, cold, No. 11 1/2 Higley, cap. 3" rd.

Saw, cold, Wagner, cap. 16" blade.

Saw, band, metal, 30" Wright, cone.

Saw, Burke, 12" blade, capacity.

Seamer, No. 205 Toledo, dbl. 12x14"

Screw mach., 8" & 10" P. & W. pl., w. f.

Shaper, 16" Am., b. g., crank.

Shaper, 20" Rockford, b. g., crank.

Shapers, 24" Cincinnati and N.-B.-P., b. g. crank.

Shapers, 20" Cincinnati; b. g. crank.

Shaper, 15" Potter & Johnston, univ. crank, belt or motor drive.

Shear, alligator, No. 5 Canton, high knife 3".

Surface plate, 48"x18"x2 1/2".

Shear, rotary, Quickwork 14 ga., 36" throat, with 60" circl. attachment, motor, 3 ph., 60 cy. 220 v.

Turret lathe, 13" Gisholt, 2 1/2" h. s.

Turret lathe, 4 1/2" x 30", B. & O., geared head, m. d.

Turret lathe, 28" Gisholt, 3 1/2" h. s., t. a.

Turret lathe, 2" x 24", J. & L., geared head, s. p. d.

Turret lathe, 18" W. & S. friction hd. cut-off

Vise, 8" Columbian, plain.

Wheel pre-s. 225 Schaffer, 40" clear.

WOODWORKING MACHINES.

Lathe, 18"x12", F & E., iron bed.

Lathe, F. & E. No. 35 auto bk. kf. ga.

Saw filer, band, Wardwell, "K".

SHOULD YOU FAIL TO FIND—the exact machine or equipment you need, use the enclosed blank or write on your own stationery and mail it to Hitchcock Publishing Co., 508 S. Dearborn St., Chicago. We shall be glad to broadcast your wants to all our advertisers free of charge.

USED AND REBUILT MACHINERY

FOR SALE BY

The Randle Machinery Co.,

Arbor press, No. 3 Greenerd.
Automatic, 4½" Gridley.
Bench press, Emco style 'W'.
Bolt cutter, 2" Acme.
Bolt cutter, 4" Acme.
Boring mills, 40" and 42" King.
Boring mill, 42" Cincinnati.
Boring mill, 48" Gisholt.
Boring mill, 72" Niles.
Boring mill, 96" Cincinnati.
Boring mill, 10' Niles.
Drill, 20" Rockford upright, t. a.
Drill, 2½" American plain, g. b.
Drill, 3" American plain, g. b.
Drill, 3½" American plain, g. b.
Drill, 4" Bickford plain, g. b.
Drill, 4" Morris plain, g. b.
Drill, 5" American, semi-un., g. b.
Lathe, 14" x 6" LeBlond, q. c.
Lathe, 18" x 10" LeBlond, q. c.
Lathe, 24" x 10" American, grd. hd.
Lathe, 18" x 10" Lodge & S., q. c.

1733 Powers St., Cincinnati, Ohio

Lathe, 24" x 12" LeBlond, l. c.
Lathe, 24" x 14" Pond, l. c.
Lathe, 24" x 14" Schumacher-B., l. c.
Lathe, 24" x 24" Fifield, loose change.
Milling mach., No. 2 B. & S., univ.
Milling mche., No. 24 Ohio univ.
Milling mche., No. 3 Cinti. univ.
Milling machine, No. 2 LeBlond, pl.
Milling machine, No. 28 Ohio plain.
Milling mche., No. 3 Cincinnati pl.
Milling mche., 18" Cincinnati, b. g.
Planer, 24" x 24" x 6" Gray, 1 head.
Planer, 26" x 36" x 16" W. & B., 2 hds.
Planer, 36" x 36" x 16" Gray, 2 heads.
Shaper, 14" Steptoe plain.
Shaper, 16" Steptoe, b. g.
Shaper, 16" new American, g. b., m. d.
Shaper, 20" Columbia, back geared.
Shaper, 24" Flatner, back geared.
Shaper, 28" Queen City, s. p. d., b. g.
Squaring shear, 82" Stamco.
Squaring shr., 4" x 146" Streine, m. d.

Many other tools of various sizes and types.

FOR SALE BY

Reliance Machinery Sales Company

1405 Brighton Road,

N. S. Pittsburgh, Pa.

Automatics, Nos. 52, 53 & 55 Acme.
Blower, No. 5 Champion, 64" outlet.
Blower, Amer. pressure, 461 cu. ft.
Bolt cutter, ½" Acme, class "A," 2-sp.
Boring mill, No. 44 D & H., floor type, 2½" bar.
Boring mill, Niles horiz., 4½" bar.
Boring mill, 34" Colburn, 1 head.
Boring mill, 42" Bullard, 2 heads.
Boring mill, 51" Niles, 2 heads.
Boring mill, 62" Bullard, 2 heads.
Brake, 48" Keane, capacity ½".
Broaches, Nos. 3 and 4 LaPointe.
Buffers, 16 h. p. 220-3-60, 3600 r.p.m.
Drills, 36" Barnes, sliding heads.
Drills, 36" Snyder, sliding heads.
Gear cutter, 36" x 10" G. & E., s. p. d.
Grinder, Oliver drill, ½" cap., m. d.
Grinder, w. p. l. NewVankee, cap. 2½".
Grinders, Nos. 11 & 12 B. & S. pl.
Grinder, 12" x 24" Modern plain.
Grinder, No. 16 Besly, double disc.
Hammer, 2-A High Speed, m. d.
Hammer, 80 lb. Bradley cush. helve.
Hammer, 300 lb. Bradley upright.
Keyseater, No. 3 Mitts & Merrill.
Lathe, 12" x 6" Seneca Falls.
Lathe, 12" x 10" Davis tool rm., q. c. g.
Lathe, 14" - 28" Fay & Scott gap.
Lathe, 14" x 6" Seneca Falls, q. c. g.
Lathe, 16" x 8" Hamilton, q. c. g.
Lathe, 18" x 8" American, g. h., m. d.

Lathe, 18" x 10" W.-B., g. h., s. p. d.
Lathe, 20" x 10" Hendey, g. h., m. d.
Lathe, 20" x 12" Hendey, tie bar.
Lathe, 24" x 12" Boye & Emmes, q. c. g.
Lathe, 30" x 12" Boye & Emmes, q. c. g.
Miller, No. 1 Knight drilling.
Miller, No. 1½ American plain.
Motor, 5 h. p. Wagner, 220-1-60.
Pipe machine, ½" to 2" Williams.
Pipe machine, 8" Cox, cap. 2½" to 8".
Pipe machine, Merrill, 2½" to 12".
Planer, 30" x 30" x 12" Gray, 1 head.
Planer, 36" x 36" x 8" Cincinnati, 1 hd.
Planer, 36" x 36" x 10" D & H., openside
Planer, 48" x 48" x 12" Betts, 3 heads.
Press, No. 19 Bliss, o. b. i., flywheel.
Press, 30-ton Lucas forcing.
Press, Ferracute DD2, o. b. i., cam.
Press, No. 54 Toledo trimming.
Punch, Royersford d. e., cap. 1" x 1½", arch. jaw, 18" throat.
Punch, Wickes, 48" thr., cap. 1½" x 1".
Radial drill, 6" Bickford plain.
Saws, No. 5 Marvel high spd., 6x6, (2).
Saw, Racine 6x6 high speed.
Saw, 9" x 9" Peerless high speed.
Saw, American metal swing, m. d.
Shaper, 24" Cincinnati, b. g. crank.
Shear, 96" x 16 ga. Stoll squaring.
Shear, 120" x ½" Garrison squaring.
Tapper, ½" Webster & Perks, 1-spd.
Tapper, 1½" Webster & Perks, 2-spd.

Our warehouse is full of bargains. What have you for sale?

USED AND REBUILT MACHINERY

FOR SALE BY

United Mchry. & Supply Co., 4640 Newberry St., St. Louis, Mo.

Boring machine, Putnam 42" car wheel, motor drive, fine shape.....\$1800.
Compressor L. D. G. 1200 cu-ft., steam.....985.
Crusher No. 6 Jumbo Williams, 1500-ton capacity.....2000.
Rolls, 8" Hilles & Jones 6" dia., drop end, like new.....485.
Veneer press, wt. 15-ton, will make panels, very reasonable.

FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,
1211-1223 N. 12th St., St. Louis, Mo.**

LATHES.

15"x 6' Monarch, q. c. g.	26"x12' Putnam.
18"x 8' LeBlond, q. c. g.	27"x12' LeBlond heavy duty, q. c. g.
20"x 8' Flather, q. c. g.	38"x14' Pond, triple geared.
20"x20' LeBlond.	60" New Haven turning, 7' centers.
24"x10' Lodge & Shipley, sel. hd.	54"x20' Niles triple geared.

VERTICAL BORING AND TURNING MILLS.

42" Niles, 2 heads.	84" Niles, 2 heads, heavy duty.
42" Bullard, 2 heads.	8' Niles, 2 heads.
54" Baush, 2 heads.	

MILLING MACHINES

No. 24B Milwaukee vertical.	No. 4 Cincinnati plain.
No. 3 Rockford, hand.	Owen duplex.
No. 14 Brown & Sharpe.	No. 25 Becker.
No. 3 Cincinnati plain.	No. 12 Kempsmith.
No. 5 Brown & Sharpe.	37"x30"x8' Ingersoll slab.

DRILLING MACHINES.

20" Champion.	4' arm Drees radial.
22" Barnes, sliding head.	5' arm Drees radial.
3-spindle Allen, h. s.	6' arm Cincinnati-Bickford radial.
3' arm Drees radial.	

PLANERS AND SHAPERS.

10"x7"x25' Detrick & Harvey planer.	48"x48"x12' Niles, 2 heads.
24"x24"x 6' Powell planer.	20" Gould & Eberhardt, b. g. crank.
30"x30"x8' Belmer.	24" Cincinnati crank.
42"x42"x12' Powell.	24" Cincinnati crank motor-driven.

GRINDERS.

Schmidt automatic.	No. 1 Diamond surface.
No. 50 Gardner disc.	No. 2 Walker universal.
8" Heald rotary, magnetic chuck.	No. 1 Fraser surface.
10"x72" Brown & Sharpe plain.	5"x18" Ott.

SCREW AND TURRET MACHINES.

2"x24" J. & L., geared head.	No. 1 Pratt & Whitney, (2).
3"x36" J. & L., geared head.	No. 6 Warner & Swasey.
14" Acme.	

GEAR CUTTERS.

No. 1 Schuchardt & Schutte.	24" Whiton bevel and spur.
No. 1 Farwell hobber.	26" Brown & Sharpe spur.

PRECISION TOOLS

No. 1 Dayton swaging machine.	No. 34-7" swing Stark bench lathes.
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MISCELLANEOUS.

Air compressors, (12).	Pipe mche., 8" Bignall & Keeler.
Belt lacer, 12" Peerless.	Press, No. 16 Stoll inclinable.
Boring mche., hor., No. 2 P. & H.	Presses, No. 19 Bliss.
Boring mche., hor., No. 3 Niles.	Punch, 48" thrt. Hilles & Jones.
Furnaces, Stewart cyanide hardening	Punch, No. 7 Long & A., 4" throat.
Hammer, Bradley 60 lb. belt power.	Punch, 36" throat, single end.
Hammer, Morgan 600 lb. steam.	Shear, 62", 18" gap, No. 10 ga.
Hammer, 800 lb. steam.	Slotter, 13" Niles.
Hammer, 2000 lb. Niles-B. steam.	Taper rolling mche., No. 2 Hess.
Hammer, 2500 lb. Chamb. steam.	Wheel press, 40", 150-ton
Metal saw, Espen-Lucas 31".	Wheel press, 48", 150-ton Niles.
Pipe mche., 6" Bignall & Keeler.	

USED AND REBUILT MACHINERY

FOR SALE BY

Carlson Machinery Co., Inc.,

Boring machine, No. 3-A universal.
Boring machine, No. 2 Rockford.
Brake, 72" Peck, Stow & Wilcox.
Centering machine, No. 4 P. & W.
Drill, 21" Canedy-Otto, p. f.
Drill, 25" Snyder, sl. hd. with t. a.
Drill, 36" New Haven.
Drill, 4" Sipp h. s., b. b.
Gear hobber, No. 12 Barber-Colman.
Gear hobber, 24" Schuchardt & S.
Gear cutter, 6-A Cincinnati.
Grinder, 10x20 Landis univ.
Grinder, 6x32 Norton plain.
Grinder, No. 63 Heald cylinder.
Grinder, 24" Norton snagging.
Grinder, 14" Blount wet tool.
Grinder, No. 8 Besly disc.
Grinder, No. 14 Besly disc.
Grinder, No. 2 Oakley univ. t. & c.

Davenport, Iowa

Lathe, 12"x6" Sheppard, grd. hd.
Lathe, 18"x6" Rockford, semi q. c.
Lathe, 14"x6" Hendey.
Lathe, 18"x6" Lodge & Shipley.
Lathe, 36x60 Lo-Swing.
Miller, No. 14 Cincinnati univ.
Miller, No. 2-B B. & S. pl., s. p. d.
Miller, No. 34 Ohio plain.
Planer, 24x24x8 Powell.
Press, No. 29 Swaine, o. b. i.
Press, No. 4 Toledo, o. b. i.
Press, No. 8 Toledo, o. b. i.
Shaper, 18" Ohio.
Shaper, 16" Smith & Mills.
Shaper, 20" Smith & Mills.
Shaper, 20" Cincinnati.
Turret lathe, No. 4 W. & S. plain.
Turret lathe, No. 6 W. & S. p. f. to carriage.

FOR SALE BY

Fitzsimmons & Cole Machinery Company

1208 House Building,

Bolt cutters, 14", 2", 24", 4" Landis.
Boring mill, 30" Colburn, m. d.
Boring mill, 42" Bullard, New Era.
Boring mill, 42" Bullard, b. d.
Boring mill, 84" Pond, 2 hds., b. d.
Boring mill, 16" Niles, vertical.
Bulldozer, No. 27 W. & W., m. d.
Bulldozer, No. 7 W. & W., m. d.
Crane, 10-ton Whiting, 52'6" span.
Drill, radial, 6' Prentice, s. p. d.
Drill, 14" Hamilton upright, b. d.
Drill, 24" Cin'ti. upright, sliding hd.
Flanger, McCabe, 1" capacity.
Gear cutters, spur and bevel.
Gear planer, 24" Gleason, bevel, b. d.
Grinder, No. 1 Landis, 10"x20" univ.
Grinder, 16"x65" Landis, crankshaft.
Grinder, 8" Bay State ring and surf.
Grinder, No. 16 Blanchard.
Hammer, 50 lb. Mayer, upright.
Hammer, 100 lb. Bradley, upright.
Hammer, 150 lb Yeakley, pneumatic.
Hammer, 200 lb. Beaudry, upright.
Hammers, 2-B, 3-B & 4-B Nazel.
Hammer, st. forg'g, 1250 lb. Morgan.
Keyseater, No. 0 Mitts & Merrill.
Keyseater, No. 1 Baker, cap. 16x14".
Lathe, 14" x 8' Prentice, g. h., m. d.
Lathe, 16" x 6' L. & S., q. c. g., t. a.
Lathe, 24" x 14" Bradford, g. h., m. d.
Lathe, 32" x 18" Bridgeford, d. h., m. d.
Lathe, axle, Bridgeford, dbl hd., m. d.
Miller, univ., No. 3-B Brown & S.
Miller, slab, 24x20x14" Ingersoll.
Miller, slab, 60x54x18" Ingersoll.
Pipe machine, 6" Williams, m. d.
Planer, 36"x36"x10" Cincinnati, 2 hds.
Planer, 48"x42"x12" Cincinnati, 2 hds.

Pittsburgh, Pa.

Planer, 48"x48"x16" Pond, 4 hds., b. d.
Planer, 36"x36"x20" Pond, 4 hds., m. d.
Planer, o. s., Cleveland, 36"x36"x16".
Planer, o. s., Detrick & H., 42"x42"x12.
Planer, rotary, No. 2 Cleve., 48" hd.
Press, Ferracute P-1, 14" stroke.
Press, No. 37 Bliss, s. s., 6" stroke.
Press, toggle, No. 1 Bliss.
Press, wheel, 400-ton Niles.
Press, forging, 500-ton United hyd.
Punch, beam, Style "G" Cleveland.
Punch, hor., Cleveland, 1" thru 1".
Punch & s., 30" thr. L. & A. 14" thru 1".
Punch & s., Pels comb., 14" thru 1".
Riveter, Hanna, 18" thrt., 15" gap.
Riveter, Allen, 66" throat, 15" gap.
Riveter, stake, No. 6 Whiting, 48" thrt.
Rolls, angle bending, 6x6x4" K. & R.
Rolls, bending, Niles 10" x 10", m. d.
Sand blast, MacLeod, 36"x36".
Saw, cold, 26" Higley.
Saw, hack, 13"x16" Peerless.
Shaper, 24" Gould & E., m. d.
Shear, angle, H. & J., cap. 6"x6"x1".
Shear, alligator, Lewis 14" square.
Shear, bevel, Lennox 4".
Shear, guil. No. 0 H. & J., 14" round.
Shear, guil. No. 3 H. & J., 24" square.
Shear, rot., No. 1104 Bliss, 3/16" cap.
Shear, rotary, No. 3 Quickwork 1".
Shear, rotary, No. 6 Quickwork 1".
Shear, plate, L. & A. 48"x14".
Shear, squar. 10" x 14" Cincinnati, m. d.
Shear, squar. 7"x4" Canton, b. d.
Straightener, bar, No. 3 K. & R.
Straightener, beam, No. 4 H. & J.
Testing machine, 100,000 lbs. Riehle.
Upsetters, 14" to 5".

USED AND REBUILT MACHINERY

FOR SALE BY

Foster Machinery Company,

10203 Quincey Ave., Cleveland, O.

Band saw, 24" woodworking.
Bolt cutter, 1 1/2" Acme.
Boring mill, vertical, 42" Bullard.
Lathe, 16"x6" Monarch.
Miller, No. 00 Brown & S., hand.
Punch, EF Cleveland, cap. 1 1/2"x1", motor drive.

Press, No. 3 Stiles.
Riveter, High Speed 2A.
Shear, alligator, Canton, cap. 1 1/2' sq.
Shear 12"x14 ga., Loy & Nawrath.
Shear, 36"x18" gap, foot.
Trolleys, I-beam, 1 & 2 ton.

FOR SALE BY

A. F. Strafer,

30 Church St., New York City

BORING MILLS, VERTICAL.

10'-16" Niles-Bement-Pond.
16'-32" Niles extension type, b. d.
14'-20" Betts extension type, b. d.
90" Niles 2-heads, belt drive.
84" Betts 2-hds., heavy, belt or m. d.

60" Bullard, single pulley drive.
53" Niles-B.-P., rapid traverse, m. d.
48" Gisholt rapid traverse, m. d.
36" Bullard V. T. L. New Era type.
54" Bullard, rapid production type.

BORING MILLS, HORIZONTAL.

5" bar, Niles-Bement-Pond, belt dr., column travel, 10' floorplate 16"x11', rapid traverse, outboard support, bars.

5" bar, Newark 60" swing, knee type.
6" bar, Barrett cylinder borer.
4 1/2" bar Niles-B.-P., floor type.
3" bar, universal table type.
6" bar, Niles knee type.

COMPRESSORS

500' Ingersoll-Rand, plate valves, a. c., direct motor drive.
500' Bury, late type 300 v., a. c.

1200' Ingersoll-Rand, modern, belted motor.

HAMMERS.

600 lb. Erie steam hammer.
400 lb. Chambersburg, steam.
500 lb. Bradley upright helve.

2500 lb. Chambersburg stm. forging.
No. 4 Nazel, type I motor drive.
No. 4-B Nazel hammer, motor drive.

LATHES.

72"x40" Sellers heavy type, weight 50 tons, belt or motor drive.
54"x28" H. S. & M. heavy, modern, quick change, taper attachment.
42"x26" Putnam, geared head, taper attachment, quick change.

36"x16" N. B. P., triple geared, belt drive, new, 1/2 price.
48"x21" Niles B.-P., 16-speed, geared head, a. c. motor drive, rapid trav.
18"x36" LeBlond, sliding gap, 10" centers.

MILLING MACHINES.

No. 3-B Brown & S. hvy., plain.
No. 4 Cincinnati plain, high power.

No. 2-B Brown & Sharpe, heavy.
No. 14A Garvin, dividing hds., comp.

PLANERS.

72"x72"x18" Pond, rev. motor drive.
84"x84"x30" Sellers, motor drive.
72"x72"x30" Sellers, belt drive.
60"x48"x14" Cincinnati, gr. box, m. d.
48"x48"x16" N. B. P. rev. motor dr.
52"x36"x22" N. B. P. rev. motor dr.

42"x42"x30" new Niles-Bement-Pond reverse motor drive.
42"x42"x26" N. B. P. rev. motor dr.
42"x42"x14" Putnam, 4 h. p. drive.
36"x36"x30" N. B. P. rev. motor dr.
36"-48"x16" Niles-Bement-Pond.

PUNCHES AND SHEARS.

No. 3 Hilles & Jones dbl. 36" t., b. d.
No. 5 Hilles & Jones, 48" t., m. d.
No. 4 H. & J., dbl., 48" thr., m. d.

Angle shear, H. & J., 6"x1" cap.
No. 2 Long & Allsatter double end, 10" throat, 1" punch, 1 1/2" shear.

MISCELLANEOUS.

Bending rolls, 32" H. & J., 1 1/2" cap.
Bending roll, No. 5 H. & J., 12" cap.
Bending roll, No. 2 H. & J., 12" cap.
Bulldozer, W. & W. No. 4.
Cold saw, 60" Newton, m. d.
Cold saw, 50" Espen Lucas, m. d.
Core wire straightener, 1/2" to 5/16".
Cranes, jib 12' booms with 6' air hoists.
Crane, wall, 5-ton, 25' overhang.
Grinder, 84" Diamond surface.

Flanging machine, 1/2" cap. McCabe, pneumatic.
Hydraulic forging press, 1200 tons.
Plate joggler, 1/2" cap.
Planer, rotary, 30" Cleveland.
Planer, plate, 25" H. & J. No. 6.
Press, wheel, 150-ton Cardwell.
Riveter, Allen, 48" throat, 24" gap.
Shear, sq., Geo. Ohl., 10", 3/16" cap.
Welding torches and generators.

USED AND REBUILT MACHINERY

FOR SALE BY

Reed & Prince Mfg. Co.,

Worcester, Mass.

HARDENING FURNACES

One G. & B. C-117 double chamber semi-muffle fuel oil furnace, also several small oil fired tool hardening furnaces.

All used, but in good condition.

FOR SALE BY

Fitchburg Grinding Machine Corporation,

Fitchburg, Mass.

LATHES.

LeBlond 14"x6".
Reed-Prentice 16"x8".
Putnam 14"x6".
Hamilton 18"x7".

Greaves-Klusman 18"x8".
Perkins threading 21"x10".
New Haven 32"x12".

PLANERS.

42"x36"x22" Whitcomb.
32"x26"x16" Whitcomb, 2 heads.
22"x22"x6" Whitcomb.

17"x20"x8" Whitcomb.
30"x30"x8" Powell, 2 heads.

TURRET LATHES.

24"x24" J. & L., chuck equipment.
24"x24" J. & L., bar equipment.
3x36" J. & L., chuck equipment,
double spindle.

24"x26" Greenlee.
14" Gisholt.
21" Gisholt.

MILLERS.

No. 3 Garvin duplex.
No. 5-B Becker.

No. 1 Steptoe.

BORING MILLS.

3"x24" Rockford.

24" Reed-Prentice.

RADIAL DRILL.

2Y Dreses.

FOR SALE BY

J. E. Haetten & Co., Inc.,

50 Church St., New York, N. Y.

Automatic, No. 52 Nat. Acme, with tooling, A-1 condition.....	\$ 350.
Boring mill, 96" Pond vertical, arranged for motor, late type.....	2750.
Boring mill, 96" Bickford, vertical, arr. for cone drive, 3 heads.....	1560.
Broach, No. 2 LaPointe Hudson, enclosed head.....	300.
Drill, 14" Leland-Gifford, 4-spindle, h. s., power feeds.....	500.
Die sinker, No. 2 Pratt & Whitney, compound table, A-1.....	550.
Furnace, American No. 1A carbonizing, heat controlled, blower.....	400.
Furnace, No. 64 American rotary heating and tempering.....	550.
Grinder, No. 26 Besly, adj. 12" cup wheels, A-1 condition.....	300.
Hammer, 1600 lb. Waterbury Farrell, board drop.....	1000.
Hammer, 800 lb. Billings & Spencer, board drop.....	700.
Hammer, 600 lb. Billings & Spencer, board drop.....	600.
Hammers, 50-75-100 lb. Bradley compacts.....	350.
Keyseater, No. 2 Mitts & Merrill, s. p. d., post and cutters.....	350.
Miller, No. 7 H Becker, Lincoln type, like new, (2), each.....	75.
Oil separator, 18" American, belt drive.....	50.
Planer, 30"x30"x7" New Haven, 1 head, very good.....	250.
Press, No. 23 V. & O. geared, Stiles type, 1 1/2" stroke, A-1.....	600.
Press, No. 24 V. & O. geared, Stiles type, 2" stroke, A-1.....	700.
Press, No. 4 Zeh & Hahnemann, o. b. i., 2" stroke, A-1.....	200.
Roll, 6" x 1/2" drop-end belt drive, fair condition.....	250.
Shaper, 16" Gould & Eberhardt, b. g., triple rail, A-1.....	650.
Shear, No. 2 Hilles & Jones, arr. for motor, 6" angle knives.....	600.
Shear, 42" gap, 15" blade, with 6 1/2" h. p., 220 v., d. c. motor.....	700.
Shear, No. 5 Hilles & Jones, 10x1 1/2" cap., 98% new.....	1800.
Turret, 2x24 Jones & Lamson, geared head, tooling.....	400.
Turret, 3x36 Jones & Lamson, geared head, tooling.....	500.
Thread roller, No. 4 Manville, with knurling device.....	450.

USED AND REBUILT MACHINERY

FOR SALE BY

Mid-West Machine Tool & Supply Co.,

Davenport, Iowa

Automatic, 8"-11" Cleveland.
Automatics, full, No. 2, No. 0 and
No. 00 Brown & Sharpe.
Drill, 1-S Garvin duplex.
Drill, 4-spindle Rockford, p. f.
Drills, 4-spd., 12" and 14" L. & G.
Drills, 6-spindle Allen, h. s.
Gear cutter, 4" Waltham, (new).
Gear tooth rounder, 12" Ingle.
Grinder, No. 10 B. & S. plain.
Grinder, 10x36 Norton.

Grinders, surface, Nos. 20 and 22,
Heald rotary.
Hobber, No. 4 Adams.
Hobbers, Nos. 3 & 12 B. & C.
Miller, No. 2B B. & S. pl., s. p. d.
Miller, No. 13-B B. & S., production.
Planer, 60" Pond.
Radial, 4' American sensitive.
Radial, 4' Mueller.
Screw machines, No. 2 B. & S., p. f.
Turret lathe, 1 1/2" Acme.

Partial list; send us your inquiries.

FOR SALE BY

Tuber, Velick & Co., Inc., - - 628-630 W. Lake St., Chicago, Ill.

Telephones: Monroe 4199-6813. No Branches

PUNCH PRESSES.

No. 0 V. & O.
No. 6 Niagara geared,
18-C Bliss.

No. 19 Bliss.
Swaine geared, (2).

DRILL PRESSES.

20" b. g., p. f., new, \$130.
1-sp. Leland-Gifford high speed, (3).
Bench type drills.

3 1/2' Bickford radial.
3' American radial.
4' Ryerson radial.

MILLING MACHINES.

No. 2 B. & S. plain.
No. 2 B. & S., single pulley drive.
No. 2 Cleveland universal, s. p. dr.

No. 2 Rockford plain.
Cincinnati 3-S, s. p. drive.
A number of hand millers.

LATHES.

16"x 6' Sidney, q. c., (2).
16"x 8' Monarch, q. c.
17"x 9' Chard, q. c., (9).
18"x 6' Lehmann, q. c., (2).
20"x10' American.

24"x10' Canadian, q. c., d. b. g., (3).
22"x10' Cisco, q. c.
24"x10' LeBlond, extra turret att.
10", 12" and 14" Shepard screw cut-
ting, quick change.

PLANERS.

24"x24"x6' Ohio, 2 heads.
30"x30"x12' Niles-B.-P., 2 heads.

36"x36"x 7' Flather, 2 heads.

SCREW MACHINES.

B. & S. No. 00 automatics serials
2100 to 4300.
No. 3 Superior.

No. 1 Foster.
No. 2 Smith, hand.
Pratt & Whitney, hand, (3).

GRINDERS.

Emery grinders, #2 and up

WOOD-WORKING MACHINERY.

Boring mills, Andrew, (3).
Moulders, 6" Yates C-4, (2).
Shapers, Advance dbl. spd., 5 h. p.,
a. c. motor in base, (6).

Shapers, double spindle, Whitney
and Fay.
Swing saws, Porter, (4).
Saw table and jointer combined,
portable.

MISCELLANEOUS.

Boring mill, 36" Colburn.
Hack saws.
Motors, 75 h. p. G. E., a. c., slip ring,
600 r. p. m., (2).
Motors, a. c. and d. c.
Pressed steel hangers and bearings,
all sizes.
Pressed Steel stools, with backs.

Saw mandrels, #3.
Shapers, Ohio 24", (2).
Shear, 6' power, direct drive, a. c.,
14 gauge.
Shear, No. 196 Niagara 8', power.
Shears, sq., Streine 3', new, power.
Time clocks, International.
Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

USED AND REBUILT MACHINERY

FOR SALE BY

Nelson Machinery Co.,

Bolt cutter, 2" Acme, style A, sgl.
Drill, American 4' radial.
Drill, Barker 25", sliding head, new.
Drills, T. S. twist, new, at half price.
Grinder, crank, Landis 16x68, arranged for plain grinding.
Hack saw, Peerless 9x9, belt drive.
Hobber, G. & E. 18-H universal.

123 N. Pearl St., Green Bay, Wis.

Lathe, Gardner No. 4 polishing, b. b.
Lathe, 28"x18" New Haven, h. s.
Miller, Kempsmith No. 23 plain.
Press, tire, 44", 150-ton capacity, with 4 piston diff. pump.
Punch & s., Royersford No. 3 dbl.
Punch & shear, single, W-W, No. 14.
Shaper, G. & E. 24".

FOR SALE BY

Severin-Tripp Machinery Co.,

Bolt cutter, Acme single 3".
Boring mill, 84" Niles vertical.
Boring mills, 36" Bulard New Era.
Boring mill, vertical, 8' Pond.
Boring mill, hor., Niles, 4 1/2" spdl.
Boring mill, hor., Niles, 6" spindle.
Boring mill, hor., Bement 4" spdl.
Brake, 8' Ohl, 16 gauge.
Crane, 20-ton box, aux. 50' span, d. c.
Gear tester, bevel, Gisholt.
Grinder, Landis 36"x144".
Hammer, 4B Nazel.
Hammer, 400 lb. Chambersburg.
Hammer, 2500 lb. Chambersburg board drop, m. d.
Lathe, 18"x 6' Champion.
Lathe, 24"x12' Prentice, geared hd.
Lathe, 24x14 Rahn-Larmon, b. d. complete, \$400.
Lathe, 6"x22' Pond, d. c. motor.
Lathe, 42"x28' Putnam, geared hd.
Lathe, 60"x38' Pond.

25 Church St., New York, N. Y.

Lathe, 72"x40' Sellers.
Lathe, gap, 18"x36" Fay & Scott.
Pipe, 1-Saunders 8", m. d.
Pipe, 1-Saunders 12", m. a.
Pipe, 1-4" with Landis head.
Planer, 36"x36"x14' Pond.
Planer, 42"x42"x26' Pond.
Planer, 54"x54"x14' Pond.
Planer, 72"x72"x30' Sellers, b. d.
Planer, 96"x96"x20' Pond.
Press, wheel, 150-ton Caldwell.
Punch, Cleveland "C" 24".
Punch, Cleveland "EF" 24".
Punches, No. 4 Hilles & J. dbl. end.
Radial drill, 30" gang, b. d.
Radial, 4' American, s. p. d.
Roll, bending, 10' H. & J., m. d., 1/2" cap., drop end housing.
Roll, bending, 12' H. J., m. d., 1/4" cap.
Rotators, 5-ton, 5-7 1/2, 25-ton.
Shaper, 24" Cincinnati.
Shear, 10' Ohl, 1/2" capacity.

FOR SALE BY

Passman Bros.,

705 W. Washington Blvd., Chicago, Ill.

50—Angle plates, 10x12—90 degree, each.....\$ 20.00.
2—Angle plates, 14x18 Nelson universal, weight 325 lbs., each..... 100.00.
25—7" Milling machine vises, weight 70 lbs., each..... 30.00.
Tool bits, 5/16 and 1/4".....0.75c per lb.

CHISHOLM AND MOORE HOISTS.

3—1 1/2 ton direct differential, each.....\$ 15.00.
3—2 ton direct differential, each..... 17.50.
1—1 1/2 ton Cyclone, high speed, each..... 35.00.
7—1 1/2 ton Cyclone, high speed, each..... 60.00.
10—3 ton Cyclone, high speed, each..... 90.00.
1—4 ton Cyclone, high speed, each..... 110.00.
1—5 ton Cyclone, high speed, each..... 140.00.
1—6 ton Cyclone, high speed, each..... 165.00.
4—1/2 ton standard screw, each..... 25.00.
2—1 1/2 ton standard screw, each..... 40.00.
3—2 ton standard screw, each..... 50.00.
3—3 ton standard screw, each..... 75.00.

ONEIDA LATHE CHUCKS.

1—6" 4-jaw independent.....\$ 16.00.
1—18" 4-jaw independent..... 46.50.
2—12" 4-jaw independent, reinforced steel, each..... 33.60.
2—18" 4-jaw independent, reinforced steel, each..... 55.80.

All of the above items are brand new.

USED AND REBUILT MACHINERY

FOR SALE BY

B. L. Saltzman,

**(809 W. Lake Street, Chicago, Ill.
524 W. Van Buren St., Chicago, Ill.)**

Bolt threader, Geometric 14".
Boring mill, No. 1 Barrett.
Drills, Cincinnati b. g., taper att., 20".
Drill, Fox multi-spindle.
Gear hobber, No. 5-A Lees-B.
Gear generators, No. 6 & 11 Gleason.
Grinder, Ott, 5' x 18".
Grinder, No. 60 Heald internal.
Grinders, Taylor & Fenn cylinder.
Lathes, D. & W. Pond 16" x 7".
Lathes, Lodge & Shipley 16" x 10".
Miller, No. 5 LeBlond.

Punch presses, Bliss, (Stiles type).
No. 2; No. 4 Walsh; Nos. 2 & 3
American Can.
Screw machines, Bardons & Oliver
No. 4.
Screw machines, Foster No. 6.
Screw machine, No. 3 1/2 Gridley.
Screw mchs., Warner Swasey No. 6.
Screw machines, Warner & Swasey,
hand, Nos. 1 & 2.
Shapers, 12", 16" & 24".

TINNERS' TOOLS.

20", 26", 42" square shears.
Rollers and 30" and 36" folders.

60" gap shear, 18" gap.

Motors and Generators—Factory Transmission.

FOR SALE BY

The O'Brien Machinery Co.,

113 N. Third St., Philadelphia, Pa.

Blueprint machine, "B" Buckeye,
single phase.
Boilers, h. r. t. and vertical.
Boring mill, No. 1 1/2 Beaman Smith
horizontal, floor type, 3 1/2' bar.
Die sinker, No. 2 Pratt & Whitney.
Die sinker, No. 3 Pratt & Whitney.
Die sinker, No. 4 Pratt & Whitney.
Drill 26" Cincinnati upright, tap. att.
Drill, No. 14 Natco 12-spindles.
Drill, 30" Foote-Burt.
Drill, 22" Aurora, motor driven, tap-
ping attachment.
Drill, 22" Aurora sliding hd., belt dr.
Drill, radial, 6' Dreeses full universal,
s. p. drive.
Gear cutter, 12" Gould & E.
Gear shaper, No. 35 Fellows, belt or
motor.
Gear shaper, 24" Fellows belt or mtr.
Grinder, No. 2 Cincinnati, 12x36.
Hammer, 2500 lb. N. B. P., dble. leg.
Hammer, 2500 lbs. Chambersburg
steam drop.
Hammer, 2000 lbs. Chambersburg,
double frame, steam forging.
Hammer, 1600 lbs. Chambersburg
steam drop forging.
Hammer, 600 lbs. Cham'burg st. d.
Hammer, 1600 lbs. Niles-Bement-
Pond, double frame.
Hammer, 1500 lb. N.-B.-P., single
frame, steam forging.
Hammer, 2500 lb. United, brd. drop.
Hammer, 5N Nazel, m d, cap. 6x6.
Lathe, 30" x 26" Lodge & Shipley, belt,
q. c. g.
Lathe, 27" x 10' LeBlond, tur. attach.
Lathe, 30" x 30' Harrington.
Lathe, 16" x 8' Cisco, h. s., q. c. g.,
taper.

Lathe, 36" x 20' Sidney, q. c. g.
Milling mche., No. 3 Garvin duplex.
Milling mche., No. 5-B Becker vert.
Milling machine, Bickford, arranged
for fluting taps.
Milling mche., No. 3 Hendey, q. c. f.
Pipe machines, 2", 4", 6", 8" & 12"
Oster, Cox, Williams, Eaton-Cole
& Burnham and Jarecki makes,
belt or motor driven, comp. stock.
Planer, 36" x 36" x 24' Bement, 4 hds.
Planer 36" x 36" x 10' Ohio, rev. mtr dr.
Press, No. 73 1/2 Bliss trimming press,
with side shear.
Press, No. 20 Bliss geared.
Press, Chambersburg trimming mtr.
drive, weight 12000 lbs.
Presses, Nos. 2, 3, 4 Federal, new.
Press, Bliss No. 2, Stiles pat.
Press, No. 049 Toledo.
Press, No. 37 Niagara, 1100 lb. fly-
wheel, solid back.
Press, No. P2 Ferracute, 475 lb fly-
wheel, solid back.
Punch and shear, 12" throat Cleve-
land, type EF.
Punch & shear, No. 3 Royersford,
double end, 18" throat.
Punch and shear, 16" Cleveland,
1 1/2 x 1, motor drive, gag attach.
Saw, 32" Newton, 9" capacity.
Saw, 30" Espen Lucas, 6" capacity.
Shaper, 17" Bement Miles, traveling
head, 2 heads.
Shaper, 20" Bement Niles, heavy
duty, traveling head, one head.
Shapers, 16", 20" and 24" Gould &
Eberhardt.
Shapers, 20" Stockbridge, with speed
box, (2).

USED AND REBUILT MACHINERY

FOR SALE BY

Purinton & Smith, - - - - **Hartford, Conn.**
 Grinder, surface, vertical type, 14" Pratt & Whitney, with ball bearing spindle and magnetic chuck.
 Grinder, surface, Brown & Sharpe No. 2, with magnetic chuck.
 Lathe, 15"x8' Lodge & Shipley.
 Presses, No. 18 Bliss, (25).
 Scrap baler, Stanley.

FOR SALE BY

E. L. Klauber Machinery Co., 320 South Third St., St. Louis, Mo.
 Brakes, 5' and 10'.
 Drill, radial, 42" Bickford.
 Drill, multiple, 10-spindle Gardam.
 Drill, 2-spindle, Taylor & Fenn.
 Drill, 15" Mechanics.
 Furnaces, American hardening.
 Gear cutter, 32" Whiton.
 Gear miller, automatic, 4" cap.
 Grinder, Bryant No. 18 internal.
 Inside cutting machine, Excelsior No. 11.
 Keyseater, Davis No. 2.
 Lathes, 12" to 26".
 Miller, No. 2 Cincinnati, div. hds.
 Miller, No. 2 Kempsmith.
 Millers, hand, No. 0 & No. 3 Burke, No. 23 Fox.
 Planer, 30"x30"x8' American.
 Press, No. 18 Bliss, o. b. i.
 Press, No. 19 Bliss, o. b. i.
 Press, No. 45 Crosby, inclined legs.
 Press, horning, No. 29 Board.
 Press, horning, No. 38 Bliss.
 Press, V. & O. No. 1, o. b. i.
 Press, Niagara No. 12 horning.
 Press, forming, die space 18x42.
 Presses, Niagara, foot.
 Rivet spinners, Grant, (4).
 Saw, 9x9 Atkins Kwik-Kut.
 Shear, serpentine, Lenox 4".

FOR SALE BY

Sun Machinery Company, Inc. 39-41 Hamilton St., Newark, N. J.
BORING MILLS.

36" Bullard v. t. l. with cutting lubricant system.
 42" Bullard, s. p. d.
 48" Bickford, brand new.
 54" Bullard rapid production.
 100" Niles, m. d.
 110" Betts, b. d.
 192" Niles, m. d.
 16"-36" Niles, m. d.
 8" Bullard Mult-Au-Matics.
 7"-10" Betts, m. d.

RADIAL AND UPRIGHT DRILLS.

8' Pond, s. p. d.
 6' Baush, s. p. d.
 6' Cincinnati-Bickford universal.
 3' American.
 No. 30 Natco, 48 spindles.
 42" Cincinnati-Bickford, m. d.

MILLING MACHINES.

No. 4 LeBlond h. d., cone.
 No. 2 Brown & Sharpe universal.
 No. 4 Cincinnati vertical.
 60"x48"x18' Ingersoll, with 4 heads, adjustable.
 30"x30"x12' Ingersoll.

LATHES.

60"x40' Fifield, triple geared.
 48"x35' Putnam.
 36"x24' Putnam.
 30"x12' American.
 30"x18' H. S. G., q. c. g.
 19"x 8' LeBlond, q. c. g.
 18"x 8' Wolcott, q. c. g.
 18"x 8' Monarch, q. c. g.

PLANERS AND SHAPERS.

10"x7"x25' D. & H. openside.
 10"x10"x36' Betts.
 72"x72"x30' Sellers.
 60"x60"x20' Cincinnati.
 48"x48"x16' Pond.
 36"x36"x18' Gray.
 24"x24"x 6' Gray.
 20" Cincinnati shaper.

MISCELLANEOUS.

Bending rolls, pyramid, 10'.
 Hydraulic gage, 100-ton.
 Keel bender, American.
 Punch, 72" H. & J., brand new.
 Punch, 48" Cleveland, brand new.
 Rotary planer, 36" Cleveland.
 Rotary shear, 44" Lennox.
 Rotary shear, No. 6 Quickwork, brand new.
 Partial list only; own or have selling rights for over 500 machines of every description. Mail us your requirements.

USED AND REBUILT MACHINERY

FOR SALE BY

Brown Machinery Co.,

2323 N. 9th St., St. Louis, Mo.

Beaders, No. 8 Pettingell, 42" thrt.
Blowers, Nos. 7 & 9 Sturtevant.
Buffer, Hisey, 3 h.p., 2-p., 60 c., 220 v.
Cut-off mchs., Nutter & Barnes.
Drill, bench, No. 1 Langelier.
Drill, 26" Canedy-Otto, b. g., p. f.
Drill, 22" Barnes, slid. hd., b. g., p. f.
Drill, 24" Aurora b. g., p. f. t. a.
Drill, 25" Superior, sliding head.
Drill, No. 2 Barnes horiz. radial.
Drill, horiz. radial, No. 3 Barnes.
Furnaces, Nos. 1 and 2 American.
Gear cutter, No. 3 B. & S., 36x8".
Grinders, emery, St. Louis & Western, 100 new at 50% discount.
Grinders, drill, W. & M. American.
Grinders, tool, Diamond.
Grinders, tool post, U. S. & Hisey.
Grinders, plain, No. 12 B. & S.; 10x36" Norton; 5x18" Ott.
Grinder, cylinder, No. 60 Heald.
Grinders, disk, No. 6 Besly; No. 14 Gardner.
Grinder, universal, No. 12 B. & S.
Grinder, 30" Diamond, roll or spdl.
Hammer, size A United, 50 lbs., m.d.
Full Line of P. S. & W. Sheet Metalworking Machinery.

Hammer, helve, 49 lb. Bradley.
Keyseater, No. 2 Davis.
Lathe, 26"x10' Whitcomb-B., q. c. g.
Lathe, 30"x 8' Lodge & S., q. c. g.
Lathe, 17"x 6' Cincinnati.
Lathes, 16"x8' Monarch, q. c. g.
Lathes, 16"x6' Monarch, q. c. g.
Lathes, No. 5A Potter & Johnston, with chucks.
Lathe, turret, 16" Gisholt.
Motors, 1, 3, 5, 7½, 10, 15, 25 h. p., 3-ph., 60 cy., 220 v.
Miller, No. 00 Brown & Sharpe.
Miller, No. 6 Whitney hand.
Miller, No. 4 Garvin plain.
Planers, 60"x60"x20' Niles, 3 heads.
Polishers, drop head, New Britain.
Press, No. 5 Stiles & Parker, grd.
Press, Bliss pattern, o. b. i.
Riveter, ½" Adt.
Screw machine, 1" Pratt & Whitney.
Shapers, 24" L. & D.; 24" S. & S.
Shear, rotary, No. 13 Pettingell.
Shear, rotary splitting, No. 134 Marshalltown, 4' throat, 1" cap.
Tapping machines, Garvin; Burke C.

FOR SALE BY

Henry Prentiss & Co.,

439 Communipaw Ave., Jersey City, N. J.

Bolt cutter, 2" Acme, double head.
Bolt header, 2½" Acme.
Boring mill, 24" Bullard, New Era.
Boring mill, 42" Bullard, power rapid traverse.
Boring mill, 102" Poole.
Boring mill, No. 1 Lucas horizontal.
Broaches, Nos. 1, 2 & 4 Lapointe.
Drill, No. 1½ Avey 2-sp., b b., bench.
Drills, 24" & 32" Cincinnati.
Drill, No. 25 Foote-Burt high speed, ball bearing.
Drill, 3" Morris radial, s. p., g. b.
Drill, 4" Carlton plain radial, t. and l. pulley, gear box.
Drill, 5" Dreses radial, s. p., b. b.
Drill, 6" Cincinnati-Bickford plain radial, s. p., g. b.
Drill, 11" Lynd-Farquhar (wall).
Drill, No. 30 Natco multi spindle.
Drill, 26" Barnes all-grd., 4-spindle.
Gear cutter, 6" Gleason generator.
Gear cutter, 36 BM. Gould & E.
Grinders, 3"-6"-10" Norton plain.
Grinder, 12" Cincinnati universal.
Grinder, No. 2 Norton cutter & tool.
Grinder, No. 60 Heald cylinder.
Grinder, No. 65 Heald cylinder.
Grinder, 14" Pratt & W. surface, b.b.

Grinder, No. 6 Besly disc.
Lathe, 14"x10' L. & S., s. p. or m. d.
Lathe, 16"x 6' Lodge & Shipley.
Lathe, 17"x16' LeBlond.
Lathe, 16"x 8' LeBlond.
Lathe, 20"x12' American, s. p. or m. d.
Lathe, 24"x10' Lodge & Shipley.
Lathe, 30"x12' L. & S. s. p. or m. d.
Lathe, 36"x24' Putnam, geared head, s. p. d., late type.
Lathe, 38"x20' Schumacher-Boye.
Lathe, 26"x44"x16' McCabe, dbl. sp.
Planers, 24"x 6 & 8' Ohio.
Planer, 30"x10' Flather.
Planer, 48"x12' Powell.
Planer, 60"x44"x12' Pond.
Planer, 72"x54"x20' Pond.
Press, No. 24 Billings & Spencer trimming, slide cutting attach.
Press, No. 5 V. & O. incl.
Screw machines, auto. 1", 2½", 4" Gridley.
Screw machines, auto. 3", 3½", 1½", 2½", 4½", 6" Cleveland; 16" G. & E.
Shapers, 16", 20" & 24" Cincinnati.
Shaper, 20" American.
Turret machines, 1½", 2½", 3½" Acme.
Turret machines, 2" & 3½" J. & L.

Partial list only. Inquiries addressed to
439 Communipaw Ave., Jersey City, N. J. will receive prompt attention.

USED AND REBUILT MACHINERY

FOR SALE BY

Colcord-Wright Machinery & Supply Co.

1223-29 North Broadway,

St. Louis, Mo.

Automatic, No. 00 B. & S., (3).

Automatic, No. 0 B. & S.

Boring mill, 30" Gisholt, m. d.

Grinder, No. 1 B. & S. universal.

Pipe machine, 12" Curtis.

Planer, 24x24x6' Ohio.

Planer, 42x36x12' Cleveland openside.

Press, P4 Ferracute.

Punch, style M6 Rock River.

FOR SALE BY

A. M. Stoeck Machinery Co., 418 Mid-City Bank Bldg., Chicago, Ill.

Bolt cutter, 1" Acme, 3-spd.

Boring mills, 20" Bullard; 60" & 12"

Niles; all have 2 heads.

Brake, 8' Dries & Krump, 10 gauge.

Compressors, 12 different sizes.

Corrugating outfit, Bertsch corruga-
tion shear and Robinson corruga-
ting rolls.

Furnaces, melting, for soft metal and
aluminum, also cyanide.

Gear cutter, 60" Gould & Eberhardt.

Lathes, 18x8 Barnes, hvy. duty; 11"

Rockford; and others.

Milling machines, plain & universal;
also No. 20 Van Norman, duplex.

Oil extractors, centrifugal, (8).

Punch presses, No. 16 Bliss horning;

No. 34 Bliss arch., and others.

Punch & shears, No. 3 Long & A.,

d. e., 1" thru 1"; No. 14 W., d. e.,

15" throat; No. 5 Long & A., d. e.

Riveters, Nos. 2-A, 3-A, 4-A & 5-A

High Speed; No. 8 Stimpson auto.,

for split grommets & eyelets rivets.

Saws, 9x9 Sterling high speed; 12"

band, and others.

Screw machines, (2); Nos. 52 & 53

Acme; other plain and automatic.

Welders, both spot and butt.

Wire straightening machines, (5).

FOR SALE BY

Cincinnati Machinery & Supply Co.,

28-30-32 West Second Street,

Cincinnati, Ohio

LATHES.

36"x16" Fay & Scott, l. c. g., tr. grd.

27"x18" Lodge & Shipley.

34"x10" American, grd. hd., s. p. d.

24"x12" Bradford, l. c. g.

17"x 8' LeBlond, q. c. g., latest type.

16"x 8' American, q. c. g.

16"x 8' Hendey, yoke head.

14"x 6' Hendey, yoke head.

MILLING MACHINES.

No. 24 Ohio plain miller.

No. 2-B hvy. Brown & S., s. p. d.

No. 3 LeBlond pl. miller, latest type.

No. 3 LeBlond universal, cone drive.

GEAR CUTTERS AND GRINDERS.

18-H Gould & Eberhardt hobber.

18" Gould & Eberhardt hobber.

No. 1 Adams Farwell hobber.

72" Cincinnati gear cutter.

Gleason gear generators, 6", 11", 18".

10"x36" Landis, self-cont., latest.

No. 2 Ohio universal tool and cutter

grinder.

No. 3 Ohio universal tool and cutter

grinder.

No. 21 Besly disc grinder, 36".

No. 60 Heald cylinder grinder.

RADIALS AND UPRIGHT DRILLS.

5' American, cone drive.

4' Bickford, tap. att., cone drive.

26" Rockford upright, latest.

28" Cincinnati upright drill.

PLANERS AND SHAPERS.

25" Smith & Mills crank, b. g. cone.

28" G. & E. crank, high duty, cone.

20" Queen City crank, b. g. cone.

24" Hendey, friction geared.

24"x24"x5' Gray planer, one head.

48"x48"x16' Gray planer, four heads.

42"x36"x12' Cleveland, open side.

60"x60"x20' Cincinnati, planer.

MISCELLANEOUS.

Bolt cutter, 14" Landis, dbl. spindle.

Boring mill, 10" Pond vertical,

modern type, 2 heads.

Keyseater, No. 1 Davis, complete.

Press, No. 164 Toledo toggle, deep
drawing.

Punch press, Bliss No. 19, inclinable.

Punch press, Bliss No. 18, inclinable.

Punch and shear, 18-E New Doty,

double end, 1" thru 1".

Shear, No. 3 Lenox rotary, 1" cap.

Write for our large machinery list. Always in the market for machinery.

USED AND REBUILT MACHINERY

FOR SALE BY

Taylor-Hall Welding Corporation, 3 May St., Worcester, Mass.

BUTT AND SPOT WELDERS.

Guaranteed to be in perfect condition.

One Toledo No. 137 spot welder.

One Thomson 40-A butt welder.

One Thomson 9-A butt welder.

One Toledo No. 3 butt welder.

One Thomson 2-A butt welder.

One Thomson 2-A auto. butt welder.

One Thomson 80-A butt welder.

One Thomson 5-A butt welder.

Many Others.

FOR SALE BY

Taylor Manufacturing Co., Inc., 35 Albany St., Cambridge, Mass.

Automatic, 2 $\frac{1}{2}$ " Cleveland, 5-hole turret.	\$ 125.
Grinder, small tool.	45.
Grinder, No. 75 Heald.	100.
Grinder, 6x18 Landis No. 11468.	750.
Grinder, cylinder, No. 60 Heald No. 344.	350.
Grinder, cylinder, No. 60 Heald No. 349.	350.
Grinders, Sanford centerless, (2), each.	1500.
Saw table, 27 $\frac{1}{2}$ "x33" table, 11" saw, countershaft built in, tight and loose pulleys, dust guard, mitre cutting attachment.	
Turret lathe, cross feed, 1 $\frac{1}{2}$ " spindle hole, 6-hole turret, 16" swing, 8" travel to turret, back gears.	850.

FOR SALE BY

McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.

Arbor presses, Eames No. 6; also bench type.

Bolt threader, Acme 2 and 3 heads.

Chain hoists, Yale & Towne 1 $\frac{1}{2}$ & 2-ton.

Clock, electric time system.

Demagnetizer, Walker.

Drill, Baush 18-spindle.

Drills, Baker.

Drills, Leland-G. 1, 2 & 3 spdl., h. s., b. b.

Drills, H. & W., Kokomo 1-spdl.,

Sipp 1 & 2 spdl., h. s., b. b.

Drills, 20", 24", 26 & 28" b. g., & tap.

Filing machine, Rearwin, floor type.

Furnace, Holcroft 92 k.w. annealing.

Gear hobblers, Barber-Colman No. 12.

Grinder, Heald No. 60 cylinder.

Grinders, Ott 5x18"; Blount, 20"

wet, (3); Landis No. 1 universal;

Modern internal.

Hack saws, 4x4, 6x6 & 6 Racine Jrs;

Atkins 4x4"; Racine 6x6", h. s.

Keyseaters, Davis No. 1 with cutters.

Lathes, South Bend 24"x14"; South

Bend 21"x12" q. c. g.; Davis 22"x10";

Star 12"x5", tool room; L. & S.

16"x6"; L. & S. 18"x8", and Hamilton

25"x14" q. c. g.; American 20"x9";

Walcott 18"x8"; Monarch 16"x8",

all q. c. g.; Cataract precision,

collets, cross slides, etc.; 40 other

assorted sizes; also Porter-Cable.

Milling machines, Kempsmith No. 2;

Ohio No. 20 plain; Becker "SD"

vertical, rotary table, 17200 lbs.;

American No. 1 $\frac{1}{2}$ universal; B. & S.

No. 3 vert., s. p. d., with rotary tbl.;

Ohio 34; LeBlond No. 3-H plain;

Brown & S. No. 3 pl.; Cincinnati;

No. 2 pl. and Becker No. 4-B vert.;

B. & S. No. 3 B plain, s. p. d.;

Kempsmith No. 3 universal.

Pipe machine, Curtis 3", motor dr.;

Merrill 4" belt drive.

Planers, Gray 28"x28"x6', 1 head;

Sellers 36"x36"x23', 2 heads.

Punches, Wetterhahn 18", throat 4"

in 4"; Williams & White No. 18,

double end punch and shears.

Punch presses, Bliss No. 18C; Toledo

No. 1; Swaine Nos. 29 and 37

o. b. i.

Pyrometer, Thwing elec., with rec.

Rivet spinners, Grant 3/16" & 5/16"

Screw machine, Gridley 1-spdl. 24"

auto.; Cleveland 1 $\frac{1}{2}$ " auto.; P. & W.

No. 2 $\frac{1}{2}$ hand; Foster No. 3 hand;

Woods No. 2 tilted turret head;

Foster No. 0; Bardons & O. No. 7;

National-A. No. 52 auto., 4-sp. m. d.

Shapers, Whipp 16" and 20"; Cinti.

20", b. g.; Ohio 20"; Ohio 16";

American 16" b. g.; S. M. 13"; S.

M. 16"; Steptoe 14"; Flather 12"

single geared.

Shears, 60" thrt. rotary slitting, (2).

Tapping machine, Garvin No. 2.

Welders, butt, Federal, 4" rds.

USED AND REBUILT MACHINERY

FOR SALE BY

McMullen Machinery Company,

Grand Rapids, Mich.

Automatics, $\frac{1}{2}$ " Cleveland, (2).
Automatics, No. 72 Nat. Acme, (2).
Grinder, No. 6-A Bryant.
Grinder, Gisholt universal.
Grinder, D-4-7 G. R. drill.
Lathe, 18x9 Chard.
Miller, P. & W. 4" spline.

Miller, W. & S. 2-spindle.
Miller, No. 3 Kempsmith plain.
Pipe machine, 6" Merrill.
Rotary shear, No. 14 Pettingell 30".
Unishear, style "A".
Welder, A. EF Type MW-4.
Welders, No. 10-A Thomson, (5).

Ask for complete list.

FOR SALE BY

Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.

MILLERS.

No. 0 Giddings & Lewis horizontal.
Beaman & Smith vertical & horiz.
No. 3 Brown & S. univ. and plain.

Nos. 2 and 2 $\frac{1}{2}$ Rockford universal.
No. 3 Kempsmith plain, (2).
No. 2 Cincinnati plain.

LATHES.

30"x14' LeBlond, q. c. g., turret a.
24"x12' Bradford, qck. chg. gr.
18"x12' Sidney, q. c. g., taper att.
20"x8' American, q. c. g., taper, relieving attachment.

24"x8' Lodge & Shipley, q. c. g., taper.
14"x6' Hendey, taper, draw collets, (3)
16"x8' LeBlond, q. c. g.
18"x8' Sidney & Chard, q. c. g., (4).
14"x6' LeBlond & Bradford, q. c. g.

SHAPERS.

24" Gould & Eberhardt, grd. crank.
24" Hamilton, heavy, grd. crank.

20" Gould & Eberhardt, grd. crank.
16" Hendey.

200 different sizes and makes universal, plain grinders; hi-speed and plain drill presses; screw machines; punch presses; gear cutters; broaching machines, lo-swing lathes, etc.

FOR SALE BY

F. W. Burns Machinery Co.,

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No. 168 $\frac{1}{2}$ Toledo toggle drawing.
No. 14-B Bliss toggle drawing.
No. 1 $\frac{1}{2}$ Bliss toggle drawing.
No. 6 Consolidated, geared.
No. C-5 Ferracute, o.b.i., f.w., type.
No. S-51 Ferracute, d. c., f. w. type.
No. 65 Consolidated, dbl. grd., s. s.
No. 64-A Consolidated, s.s., f.w. type.

No. 83 Consolidated, adjustable tbl.
No. 30 Cameron arch press, f.w. type.
No. 51 Toledo arch press, geared.
No. C-92 Ferracute notching press.
No. 10 Excelsior, 20" throat.
No. 2 V. & O. inc., f. w. type.
No. 3 Adriance, incl., f. w. type.
No. 56 Beloit punch & shear.

AUTOMATICS

$\frac{3}{8}$ ", 1 $\frac{1}{2}$ ", 2", & 2 $\frac{1}{2}$ " Cleveland, model A.
 $\frac{3}{8}$ " Cone automatics, like new, (3).
No. 2-G Brown & Sharpe, 1" cap.
No. 3 Acme screw slotter.

No. 4 Warner & Swasey, power feed.
No. 3 Bardons & Oliver.
 $\frac{1}{2}$ " Geometric threaders, (3).

LATHES.

12"x 5' Hendey, q. c.
13"x 8' South Bend, loose change.
20"x10' Bradford, q. c.
20"x18' Pond.

15"x 8' South Bend, loose change.
22" Prybil spinning lathes.
9"x14" Porter-Cable.

MISCELLANEOUS.

Blowers, No. 2 American gas.
Drill, No. 25 Foote-B, hvy. duty.
Drill press, Kerns 6-spindle 16", h. s., b. b.
Engraving mach., No. 1-A Gorton.
Forging machine, No. 1 $\frac{1}{2}$ Ajax.
Gear cutter, No. 13 Brown & S.
Grinder, Detroit centerless.
Grinders, No. 1 $\frac{1}{2}$ Landis universal.

Grinder, No. 70 Heald.
Hammer, 800 lb. B. & S., board drop.
Jointer, 16" Famous.
Miller, No. 3 Burke, hand.
Riveting hammer, No. 6-B H. S., $\frac{1}{2}$ ".
Sander, 42" Berlin three-drum.
Shaper, 24" Stockbridge.
Shear, No. 203 Stoll circular.
Washer, Blakeslee's metal.

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FOR SALE BY

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Press, No. 3 Crosby, o. b. i., 1½" str.
Press, No. 126 Max Ams, 2" stroke.
Press, Nos. C-92 and S-51 Ferracute.
Press, No. 24 Mich. horn., 6000 lb.

Press, No. 165 Consolidated, dbl. crk.
Press, No. 1½ Bliss toggle drawing.
Press, No. 52 Bliss, straight side.
Seamers, No. 12 McDonald, auto's.
Shear, No. 203 Stoll, circie.
Shear, No. 136 Niagara, square.

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- 18" x 10' Morris Q. C., New.
- 22" x 12' Morris Q. C., New.
- 32" x 17' Pond Single B. G., Cone.

SHAPERS & SLOTTERS

- 15" Bement Slotter 220 v., D. C.

DRILLS

- 22" Sliding Head.
- 4' Morris radial, new.
- 5' Niles Universal Gear Box.
- 6' Niles Universal, Motor.

BORING MACHINES

- 42" Niles B. & T. Mill.
- 44" Niles, with R. H. Turret Head, 220 v., D. C.
- 12' Niles Heavy Vertical B. & T. Mill.

PLANERS

- 32" x 32" x 10' Niles, 2 Heads.
- 32" x 32" x 12' Pond, 2 Heads, Motor.
- 36" x 36" x 10' Pond, 3 Hds., Rev. Mtr.
- 36" x 36" x 12' Pond, 4 Hds., Rev. Mtr.
- 42" x 42" x 12' Niles, 4 Heads.
- 42" x 42" x 14' Pond, 4 Heads, Motor.
- 48" x 48" x 16' Pond, 4 Heads.
- 72" x 72" x 24' Pond, 4 Heads, Rev. Motor.
- 10' x 10' x 36' Betts, Motor, 4 Heads.

PUNCHES & SHEARS, AND MISCELLANEOUS EQUIPMENT

- Gardner 53" Horizontal Disc Grinder, D. C. Motor.
- Natco 16-spindle, No. 13 drill.
- $\frac{3}{8}$ " x $\frac{3}{8}$ " Cap. 12" Throat L. & A. Horizontal Punch, arran. for Mtr.
- 185 lb. Motor Driven Air Hammer.
- 2" Cox Lever Grip Pipe Machine, D. C. Motor.
- DA2-Wilson, 220 v., D. C. Welder.

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Division Niles-Bement-Pond Company

Hamilton, Ohio

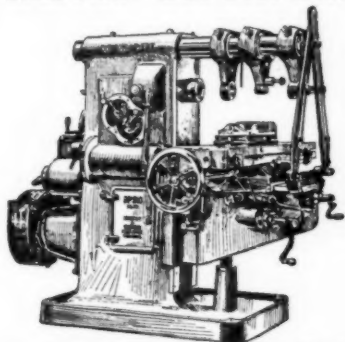
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No. 2B Universal
No. 3B Plain
No. 2B Vertical
No. 3B Vertical

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The discriminating PURCHASER will find our Rebuilt Tools MACHINES OF QUALITY, backed by our GUARANTEE

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- 24" Bullard V. I. L., New Era Type.
42" Bullard Vertical Turret Lathe,
New Era Type, with lubrication
system and threading attachment.
42" Gisholt Rapid Power Traverse,
one turret head, plain head.
51" Bullard Standard Turning and
Boring Mill.
54" Bullard Boring and Turning Mill,
rapid production type.
6" Cincinnati Boring Mill, rapid trav-
erse, 2 swivel heads.
No. 1 Cleveland Horiz., sgl. pulley dr.
No. 0 Giddings & Lewis Horizontal,
single pulley drive.

DRILLS

- Nos. 217, 310, 314 Baker.
22" Natco, arr. for 20-spindles, m. d.
32" Cincinnati Bickford, with tap. att.
36" American Sensitive High Speed
Radial, tapping attachment.
3½" American Pl. Radial, gr. box dr.
6" American Radial, gear box drive.

GEAR CUTTERS

- 36S Gould & E. Spur Gear Cutter.
No. 12 Barber Colman Gear Hobbers.
6" Gleason Bevel Gear Generator.
11" Gleason Bevel Gear Generator.
60" Brown & Sharpe Gear Cutter.

GRINDERS

- 6x32 Norton.
10x50 Norton.
Taylor & Fenn Internal Grinder.
No. 2 Brown & S. Surface Grinder.
No. 16 Blanchard, Floor Motor Drive,
no motor.
No. 22 Heald Rotary Surface Grinder,
12" magnetic chuck.
No. 255 Heald Rotary Surface Grinder,
8" or 12" magnetic chuck.

This is a partial list of our equipment. In addition to above list we have
several hundred machines going through the process of rebuilding.

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THE NOTCH & MERRYWEATHER MACHINERY CO.

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LATHES

- 14x6 Hendey, with taper attachment
and relieving attachment, g. c. f.
16x8 LeBlond, taper att., cone drive.
18x8 Hendey, yoke type, cone dr., t. att.
20x10 Reed-Prentice, geared head,
single pulley.
36x10 American, geared head, with
taper attachment.
36x28 Lodge & Shipley, sel. hd., t. att.
42x32 American, geared head, with
35 h. p., d. c. motor.

MILLING MACHINES

- No. 1-B Brown & Sharpe plain, single
pulley drive.
No. 2-A Brown & Sharpe, Universal,
single pulley drive, dividing head.
No. 3 Cincinnati Plain, cone drive.
No. 3 Cincinnati Universal, with di-
viding head, single pulley drive.
No. 4 Cincinnati Universal, with di-
viding head, cone drive.
No. 3 Cincinnati Vert., sgl. pulley dr.
No. 4 Cincinnati Vert. sgl. pulley dr.
No. 5 Cincinnati Horizontal, rectangular
overarm, single pulley drive.
No. 1-B Milwaukee Universal, double
overarm, dividing head, vertical att.

PLANERS

- 24"x24"x10' Gray, 1 head on rail.
48"x48"x12' Cleveland Openside, 2
hds. on cross rail, 1 side hd., belt dr.

SHAPERS

- 15" Potter & Johnston Univ., cone dr.
16" Ohio, 20" Cincinnati, 24" Gould
& E., 24" and 28" Amer., cone dr.
20" G. & E., cone drive.

TURRET LATHES

- No. 4 Warner & S., pwr. fd. to turret.
No. 3-A W. & S., comp. ck. equip.
2¼x26 Cincinnati Acme, cone drive.
3¼x36 Cincinnati Acme, geared head.

Exceptional Values

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- 42"x18" American triple geared, quick change, **Geared Head**, late type.
 36"x10" Fay & Scott standard change.
 32"x34" American quick change.
 30"x17" Houston, Stanwood & Gamble quick change.
 24"x12" American **Geared Head**, quick change, late type.
 24"x12" American quick change.
 24"x10" Boye & Emmes quick change.
 21"x10" R. K. LeBlond quick change.
 20"x10" American **Geared Head**, q. c.
 20"x10" Lodge & Shipley, q. c., late type.
 19"x12" Sidney quick change, taper att.
 18"x12" Cisco quick change.
 18"x8" American quick change, late type.
 17"x8" R. K. LeBlond quick change.
 16"x10" R. K. LeBlond quick change.
 16"x6" Lodge & Shipley quick change.
 14"x6" American quick change.
 14"x6" Lodge & Shipley quick change.
 No. 3-A Warner & Swasey universal hollow hex. turret lathe.
 24" Gisholt Turret Lathe, late type—6 1/4" hole through spindle.
 3"x36" Jones & Lamson Turret Lathe.
 2"x24" J. & L. dbl. spindle Turret Lathe.
 2" Pratt & Whitney Turret Lathe.
 Nos. 2 & 4 Warner & S. Turret Lathes.
 Nos. 2 & 4 Foster Turret Lathes.
 No. 4 Millholland Turret Lathes.
 No. 4 Bardons & Oliver Turret Lathe.
 No. 2 S. P. Garvin Hand Screw Mche.

MILLING MACHINES

- Nos. 1 1/2, 2, 3 and 4 Cincinnati Universal, cone pulley type, complete.
 No. 3 Brown & Sharpe Universal, cone pulley, complete.
 No. 1 1/2-A Owen Universal, cone pulley, complete.
 No. 5 LeBlond Plain, all geared, arranged for motor drive.
 No. 4 Cincinnati **High Power Plain**, cone pulley, late type.
 No. 3 Heavy Duty LeBlond, plain cone pulley.
 No. 3 Brown & Sharpe Plain, cone pulley, (power quick return to table).
 No. 2 Kempnath Plain, cone pulley.
 No. 3 Kempnath Plain, cone pulley, late type.
 No. 2 Cincinnati Plain, cone pulley.
 No. 1 1/2 Cincinnati Plain, cone pulley.
 No. 0 LeBlond Plain, cone pulley.
 Nos. 1 & 1 1/2 Knight Milling & Drilling Machines.
 Nos. 3 & 6 Becker vertical.
 No. 3 B. & S. vertical, single pulley.
No. 21 Brown & Sharpe Automatic Milling Machines, Latest Type.
 No. 6 Whitney Hand Miller.
 Gooley & Edlund (Briggs Type) Mfg.

GEAR MACHINERY AND GRINDERS

- No. 5-A Lees-Bradner Gear Hobbers, capacity 19" gears.
 No. 18-H Gould & Eberhardt High Duty Gear Hobbers.
 No. 12 Barber-Colman Gear Hobbers.
 No. 3 36" and No. 3 26" Brown & S. Auto. Spur Gear Cutters, late type.
 No. 3 24" Cincinnati Automatic Spur Gear Cutter.
 20" Ingle Gear Torth Rounding Mche.
 84" Diamond Face Grinder, arranged for motor drive.
 No. 12 26" Besly Disc Grinder.
 Walker Single Stroke Surface Grinder, with magnetic chuck.
 No. 120—Gardner ball bearing double Disc Grinder.
 No. 1 and No. 3 B. & S. Univ. Grinders.
 12"x36" Landis Pl. Self-Cont. Grinder.
 No. 2 12"x36" Cincinnati Plain.
 8"x30" Modern Pl. Self-Cont. Grinder.
 6"x32" and 10" by 50" Norton Plain.
 No. 1 R.K. LeBlond Univ. Tool & Cut.
 No. 2 OHIO Universal Tool and Cutter.
 No. 60 Heald Cylinder, late type, compl.
 Nos. 70 and 75 Heald Internal.

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rebuilt and guaranteed Machine Tools

RADIALS AND UPRIGHT DRILLS

- 4' American triple geared Plain Radial, gear box drive.
- 4' Cinti-Bickford Pl. Radial, gear box dr.
- 3½' Cinti-Bickford Plain Radial, gear box drive.
- 3' American triple geared Plain Radial, gear box drive.
- 3' American ball bearing Sens. Radial.
- Nos. 1 and 3 W. F. & John Barnes Horizontal Radials.
- 36" Cinti-Bickford Upright.
- 32" Reed-Prentice Upright, gear box drive, tapping attachment.
- 28" Aurora Upright, tapping attach.
- 26" Reed-Prentice Upright, gear box dr.
- 25" W. F. & John Barnes Upright (stationary head).

- 24" Milwaukee Upright Drill.
- 22" W. F. & John Barnes Upright.
- 22" Aurora Upright, tapping attach.
- 20" Barnes All Geared Drill, Self Oiling.
- No. 310 Baker Bros. heavy duty.
- No. 614 Baker Bros. heavy duty.
- 5-Spindle Detroit Horizontal.
- No. 11 and No. 12 Pratt & Whitney Multiple Spindle.
- Nos. 0 and No. 1 Fox Multiple Spindle.
- No. 41 Natco Multiple Spindle.
- 2-Spindle Edlund Ball Bearing.
- No. ½ Avey Ball Bearing.
- Class "K" Henry & Wright Ball Bear.
- 1, 2, 3 and 4-spindle Henry & Wright Ball Bearing.

SHAPERS AND PLANERS

- 24" Queen City heavy duty b. g. Crank Shaper.
- 24" Steptoe triple geared Shaper.
- 20" Cincinnati heavy duty b. g. Crank Shaper.
- 16" Gould & Eberhardt High Duty B. G. Crank Shaper.

- 15" Hendey friction geared Shaper.
- 12" Smith & Mills Crank Shaper.
- 26"x26"x 8' Woodward & Powell, Planer, one head on rail.
- 36"x36"x14' American Planer, two heads on rail.
- 38"x38"x18' Niles Planer, 2 hds. on rail.

MISCELLANEOUS

- Air Compressor, 18"x12"x12" Worthington, double stage steam driven, cap. 700 cubic feet.
- Air Compressor, 10"x10" Chicago Pneumatic Class N. S. B., belt drive.
- Arbor Press, power, No. 55 Atlas, belt dr.
- Arbor Press, No. 4 Atlas.
- Bolt Cutters, 1" and 3" Acme, class A.
- Bolt Threading Mche. 1" Landis dbl. ap.
- Bolt Threading Machines, 1" and 1½" Landis, with lead screw attachments.
- Boring Mill, 76" Bullard vertical, 2 heads on rail.
- Boring Mill, 24" Bullard vertical, rapid production, with turret and side head.
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- Broaching Machine, No. 3 J. N. LaPointe, double.
- Chucking Machine, No. 33 New Britain automatic.
- Die Sinker, No. 2 Pratt & Whitney.
- Hammers, 40-lb. and 60-lb. Bradley rubber cushioned helve.
- Keyseater, No. 00 Baker Brother, cap. ¾" keyways.
- Press, power forcing, 15-ton Lucas belt dr.
- Press, pwr., No. 4 Niagara, open bk. incl.
- Press, power, P-No. 4 Ferracute.
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- Tapping Machines, automatic, Nos. 1, 2, 2X and 2 Garvin, back geared.
- Welder, Electric spot, Winfield, cap. to weld 2 pieces of ¼" material.

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Boring Mills—Vertical

- 42" Bullard 2 swivel heads.
- 44" Baush, 2 swivel heads.
- 48" Colburn boring mill.
- 51" Niles-Bement-Pond.

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- 3" bar Binsse, table type.
- 3½" bar Rochester, floor type.
- No. 32 Giddings & Lewis.

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- 5 to 25 ton, all spans, both a. c. & d. c.

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- 4-spindle Moline rail drill, 1½" capacity.
- No. 1, 8" wall radial.
- 30" Cincinnati, sliding head.
- 30" Aurora, sliding head.
- 24" No. 25 Foote-Burt, with compound table.

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- ¾" and 1½" Acme steel bed Upsetters.
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- 250-ton Mesta Steam Hydraulic, 85%.

Grinders

- 84" Diamond face grinder.
- 18x96" Norton plain.
- 17x36" Landis universal.
- No. 2 Norton universal tool and cutter.
- No. 20 Safety electric floor grinder, 10 HP motor, 32"x4" wheels.
- Various electric floor grinders and grinding stands.
- No. 2 Diamond surface grinder.

Keyseaters

- No. 00 Baker, capacity ¾"x8", tilting table.

Lathes

- 14" to 18"x6'-8' beds, tool room.
- 20"x10' Boye & Emmes, quick change, double back geared.
- 26"x14' Greaves-Klusman lathe.
- 30"x14' Boye & Emmes, double back geared.
- 36"x14' Schumacher & Boye, triple geared.
- 48"x26' Bridgeford, grd. hd., t. a.
- 48"-60"x34' Houston, Stanwood & Gamble, grd. hd., mtr. dr.
- 60"x20' American, triple geared.

Tumbling Barrels

- Several sets 18"x48" steel lined, square, with roller bearings and exhaust.

CYRIL J. BATH & CO., E. 70th & M

Cleveland Stock

Hydraulic Equipment

175-ton R. D. Wood 4-column Flanging Press.
Morgan Hydraulic Riveter, 8' 6" gap.
Wood and Bement-Miles Hydraulic Riveters, 10' 6" gap.

Milling Machines

Style "B" Gooley & Edlund, table 54"x11½", (2).
20"x7½"x18" Oesterlein plain, belt drive.
No. 1 Rockford plain, back geared, 22"x6½"x15".
No. 2-B heavy Brown & Sharpe plain, 28"x10"x19".
No. 3 Hendey, geared head, plain.
No. 4 Cincinnati high power miller, table 64½"x16½".
Becker miller, model "C", table 14"x54".
Nos. 2 & 3 Pratt & Whitney Die Sinkers.

Planers and Shapers

22"x24"x57" Fitchburg, single head.
30"x30"x8" Gray, single head.
36"x36"x8" Cleveland, upside.
36"x36"x14" Gray planer.
60"x60"x20" Cincinnati, 4 heads, 3 speed, very good.
48"x48"x14" Hamilton, 4 heads.
12" Springfield, crank shaper.
24" Rockford, Queen City, and Cincinnati shapers.
16" Queen City shaper.
28" Gould & Eberhardt, invincible type.

Punches and Shears

84" throat, Long & Allatatter, capacity about ¾" thru ¾".
Kling Bros. horn press, 60" horn, flywheel 50" dia. 6½" face.
48" throat No. 4 Southwark, capacity 2"x1¼".
36" throat Lennox rotary shear, capacity about ½" plate.
15" throat No. 14 Williams & White.
Lennox rotary bevel shear, ¾" capacity.
76" Multiple punch, shear or press, 5/8" capacity.

Turret Lathes and Screw Machines

3"x36" Jones & Lamson. 6-A and 7-A Potter & Johnston
No. 4 Bardons & Oliver. automatics.

MISCELLANEOUS

Acetylene Generator.
Blower, No. 4 Root, motor drive.
Blowers, Nos. 1 & 2 Buffalo Forge.
Bolt cutters, Acme, 1" capacity,
Landis 1½".
Chain Hoists, ½, 1, 1½, 4 & 6 ton.
Cold Saw, No. 4 Cochrane-Bly.
Gear Hobber, 5-A Lees-Bradner.
Hammer, 100 lb. Bradley helve.
Pipe Machines, 4" Jarecki, 8"
Merrill.
Presses, No. 66 Consolidated, 4"
stroke; Bliss dbl. crank, 5" shaft.
Slotter, 48" Niles-Bement-Pond,
motor drive.

& Machinery Av., N. E., Cleveland, O.

EVERY MACHINE—

ENGINE LATHES

14"x 6' LeBlond, l. c. g. and chuck.
14"x 6' Hamilton.
14"x 6' Porter, compound rest and taper attachment, l. c. g.
16"x 6' South Bend, compound rest, complete.
16"x 8' Lodge & Shipley, old style, compound rest, q. c. g.
16"x 8' Hendey, c. r. and t. a., q. c. g.
16"x 8' Bradford, c. r., loose change gear.
16"x 8' Monarch, compound rest, standard pattern.
18"x 8' Prentice, compound rest, l. c. g., chuck.

18"x 8' Boye & Emmes, c. r., q. c. g.
18"x 7' Fulton heavy duty friction hd. pl. turning lathe, pan bed, dbl. tool post and countershaft, new.
18"x 8' Porter, 4-step cone, s. b. g., q. c. g. engine lathe, complete, new.
18"x 8' Superior, c. r., q. c. g.
18"x 10' Star, 4-s. c., s. g., with 16" 4-jaw ind. chuck.
20"x 8' Reed friction head, with turret on carriage.
20"x 10' Boye & Emmes, c. r., q. c. g.
24"x 10' Greaves & K., c. r., q. c. g.
24"x 10' Boye & Emmes, c. r., q. c. g.

TURRET LATHES AND SCREW MACHINES

2"x 24' Jones & L. g. h. flat turret.
No. 90 Brown & Sharpe auto., (2).
No. 0 Brown & Sharpe auto., (2).
12" W. & S., friction head.
12" W. & S., friction head, with set-over turret.
14" W. & S., friction head, (2).
16" W. & S., friction head.
No. 4 Warner & Swasey, p. h., a. c. and b. f.
No. 2 Warner & Swasey, p. h., a. c. and b. f.
No. 4 Warner & S., g. f. h., a. c. and b. f.
No. 3 Foster g. f. h. turret screw mch., with p. f. carriage and turret.

No. 55 Nat'l Acme 4-spld. auto., (3).
24" Cleveland model "A" auto. screw mch., with 5-hole turret.
14" Cleveland model "A" auto. screw mch., with 5-hole turret.
18" Libby, factory rebuilt.
No. 2-G Brown & Sharpe auto-matics (2).
No. 2 Brown & Sharpe turret forming (2).
1"x 7" Millholland, pl. hd., auto. ck., bar fd., hand fd., cross slide and turret, complete, new.
1"x 7" Millholland turret screw mch., pl. hd. auto. ck., bar feed hand fd. cross slide, with power fd. tur., new.

DRILLING MACHINES

No. 1-S Garvin duplex, (2).
3' American sensitive radial with t. a. and elevating table.
4' Mueller, gear box, sgl. pulley dr.
5' and 6' Americans, tr. grd., 8-speed change, gr. box, sgl. pulley drive.
21" Aurora W. & L., square base, stationary head.
6' Western, with speed box, tap. att.
3' Drestes, cone drive, tap. att.
5' American triple purpose, with speed box.
36" Cincinnati sliding head, b. g. and p. f.
24" Aurora sliding hd., b. g. & p. f. (2).
26" Superior W. & L. square base, stationary head.

14 3-spindle Henry & W., h. s., b. b.
14" 4-spindle Henry & W., h. s., b. b.
12-spindle Moline, cam fd., two tbl.
3-sp. Edlund, high sp., ball bearing.
No. 22 Colburn, sgl. sp., hvy. duty, 14" cap., with solid spindle and flange for receiving multiple drill heads, new, (2).
No. 44 Colburn, sgl. sp. heavy duty, 24" cap., with solid sp. and flange for receiving multiple drill heads, new, (2).
Colburn horizontal duplex drill, 24" cap. with rotating table, arranged for motor drive, new.
No. 34 Demco high speed bench drill with C spindle, new.

The Strong, Carlisle & Hammond Co

Guaranteed—Prices Right

MILLING MACHINES

- No. 0 Bickett, hand, bench type, (3).
 Toledo hand milling machines.
 No. 1 $\frac{1}{2}$ B. & S., cone dr., universal, complete.
 No. 1 Brown & Sharpe vertical.
 No. 4 Brown & S., cone drive, univ.
 No. 3-B heavy B. & S. plain, constant speed.
 Type C Becker vertical, constant speed drive.
 24"x18"x60" Ingersoll, Farwell vertical milling head.
 No. 1 $\frac{1}{2}$ B. & S. cone drive, univ.
 25"x7 $\frac{1}{2}$ "x18" Oesterlein universal, vertical attachment.
 No. 2-B B. & S. constant speed plain, taper nose spindle with Dickow dividing head.
 No. 1-Y Brown & Sharpe plain.
 No. 12 B. & S. manufacturing.

METAL CUTTING TOOLS AND SQUARING SHEARS

- No. 3 Atkins band saw, belt driven, new, (2).

GEAR CUTTERS AND HOBBERS

- No. 18 Gould & Eberhardt vertical, for spur & spiral.
 35" No. 3 Brown & Sharpe automatic

SHAPERS AND PLANERS

- 16" American, b. g. c., complete.
 16" Gould & Eberhardt crank, gear box, single pulley drive, (3).
 20" Hendey friction, (3).
 16" Smith & Mills, back grd. crank.
 22"x22"x 5' Putnam planers, (2).
 24"x24"x5' Cincinnati, one head.
 30"x30"x10' Woodward & Powell, three heads.
 48"x48"x12' Gray, three heads.
 72"x72"x26' Fitchburg, four heads.

CENTERING MACHINES

- Centering machines, single spindle Cadillac, (2).

GRINDERS

- No. 1 Brown & Sharpe universal.
 No. 3 Brown & Sharpe universal.
 No. 1 Bath universal.
 No. 13 B. & S. univ. and tool, (2).
 No. 3 Diamond wet tool grinder with drop apron, new.
 No. 4 Diamond wet tool grinders with drop apron, new, (2).
 No. 10 Brown & Sharpe plain.
 No. 14—30" B. & S. plain cyl., (2).
 No. 14—48" B. & S. plain, (2).
 6"x30" Norton plain, (2).
 No. 24 Landis plain.
 Abrasive surface grinder with magnetic chuck, generator and demagnetizer.
 8" Heald rotary surface grinder with magnetic chuck.
 No. 6-A Bryant internal.
 No. 1 LeBlond cutter grinder.
 J. B. Point "Yankee" drill grinders, complete, new, (2).
 Type "DE" Hisey-Wolf internal.
 No. 11 Brown & Sharpe pl. grinders.
 Plain emery wh'l stand with column.
 No. 1 Woods cutter and reamer grinder, complete, new.
 No. 2 Woods cutter and reamer grinder, complete, new.
 No. 3 $\frac{1}{2}$ Woods cutter and reamer grinder, complete, new.
 20" Whitney wet tool grinders, complete with countershaft, new, (2).
 C3A Grand Rapids duplex drill grinders with wet att., new, (2).

MISCELLANEOUS

- Bolt cutter, 1 $\frac{1}{2}$ " National 2-spindle, with Landis heads.
 Boring or drilling machine, No. 1-S Garvin duplex horizontal, (2).
 Boring mill, 34" Colburn vertical, swivel turret head.
 Boring mill, 72" Niles vertical, two swivel heads.
 Broach, No. 2 double Lapointe.
 Filing machine, No. 2 Cochrane-Bly.
 Marking machine, Etchograph.
 Oil extractor, No. 150 Curtis.
 Pipe machine, 8" Jarecki, No. 88.
 Pipe machine, 4" Oster.
 Profiler, No. 12, 2-spl. P. & W. vert.
 Scleroscopes, Shore, (4).

Cleveland, Ohio; Detroit, Michigan

WICKES Removal Sale

We have decided to rent our immense warehouse and occupy a smaller one. Therefore we offer at

SACRIFICE PRICE

Our entire stock of Rebuilt and Guaranteed Machine Tools, Contractors', Power and Electrical Equipment in order to save the cost of moving and to reduce our stock to the size suitable for the smaller warehouse.

PARTIAL LIST OF MACHINE TOOLS

LATHES AND BORING MILLS

- 36"x16' Pond, 9' 6" centers.
- 34½"x16' Lodge & Shipley Q. C. G.
- 25"x12' LeBlond Q. C. G. Lathes (2).
- 13"x21"x8' Star Gap Lathe.
- 28" Gisholt Turret Lathe, belt driven.
- 4" Niles Horiz. Boring Mill.
- 42" Bullard Rapid Production Vertical Boring Mill, 220 Volt, D. C., M. Drive, turret head on rail.
- 42" Bullard Vertical Boring Mills.
- 37" Baugh Vertical Boring Mill.

MILLERS AND GRINDERS

- No. 5B Brown & S. Plain Miller.
- No. 4 Cincinnati Plain Miller.
- No. 3 K&P Plain Miller.
- No. 3 Becker Vertical Miller.
- No. 2½ LeBlond Plain, cone drive.
- No. 2 K&P Plain Miller.
- No. 1 Cleveland Plain, S. P. D.
- No. 13 Garvin Plain Millers, (2).
- No. 60 Heald Cyl. Grinder, No. 2133.
- 12"x72" Norton Cylindrical Grinder.
- 4"x30" P. & W. Cylindrical Grinder.

RADIALS AND DRILL PRESSES

- 6' Bickford Plain Radial.
- Barr 6-Spindle Sensitive Drill.
- No. 25 Foote-Burt Hvy. Duty, cap. 3".
- 24" Weigel Sliding Head Drill.

SHAPERS—PLANERS—SLOTTERS

- 16" Steptoe Crank Shaper.
- 20" Smith & M. Crank Shaper, new.
- 10" Betts Slotter.
- 24"x24"x10' Chandler Planer.
- 36"x30"x16' Whitcomb-B. Planer.

HAMMERS

- 1100 lb. Bell Steam Forging.
- 1100 lb. N. B. P. Forging.
- 2000 lb. Bell Steam Forging.
- 200 lb. United Upright Power.
- 40 lb. Bradley Helve Hammer.

PUNCHES AND SHEARS

- 36" Cleveland Style EF, 1¼"x1".
- 21" Hilles & Jones S. E., 1"x¾".

PNEUMATIC RIVETERS

- Allen, 72" reach, 12" gap, 10" cyl.
- Allen, 36" reach, 12" gap, 10" cyl.
- Allen Compression (Angle) lever rive., 11½" dia. cyl., 9½" reach, 14" gap.

MISCELLANEOUS

- 24" Brown & Sharpe Gear Cutter.
- No. 3B LaPointe Broaching Machine.
- 4"-6"-8" and 12" Pipe Machines.
- P. & W. Flywheel Trimming Press.

WICKES MACHINERY CO.

46 to 64 Mallory Ave., Jersey City, N. J.

Established 1900

A Few Bargains In Grinders

- 1—No. 14 Brown & Sharpe Plain Grinder, 12x48,
used 4 months, equal to new. Guaranteed against
scored bearings, cut ways, or any appearance of
wear at any point, price.....\$750.00
- 1—No. 11 Brown & Sharpe Plain Grinder, 11x32,
latest type, self-contained, single pulley drive.
Condition equal to new, price..... 550.00
- 1—No. 2 Cincinnati Tool & Cutter Grinder, complete
in all details; equal to new. A bargain at..... 515.00
- 1—No. 70 Heald Internal Grinder, good condition;
brand new grinding head..... 375.00
- 1—No. 75 Heald Internal Grinder, good condition;
brand new grinding head..... 345.00
- 1—16x48 Landis Crankshaft Grinder, latest type,
self-contained countershaft, single pulley drive.
Used only to grind a few experimental crankshafts.
Has with it 2 extra new wheel flanges, 2 new
center rests, full equipment of splash guards, and
Landis Universal driving arrangement adjustable
for different lengths of stroke..... 975.00
- 1—8" Rotary Surface Grinder with Magnetic Chuck;
excellent condition 175.00
- 1—No. 1 Norton Tool & Cutter Grinder complete
with nearly all fixtures. In very serviceable con-
dition throughout and a real bargain at..... 315.00

A. R. Marsh Machinery Co.

4900 West 73rd St.,

:-:

Cleveland, Ohio

Good Tools—Priced Right

DRILLS

No. 3 Bausch High Speed Multiple Spindle Drill, 20"x40" rectangular head; ten spindles 1 3/4". Condition good	\$1000.
28" Barnes Sliding Head, tapping attach., comp. table. Condition good	350.
(NEW) 26" Kern Sliding Head, back gear, power feed, tapping attach.	600.

GRINDERS

Waltham & Morman Twist Drill Grinder, motor drive, capacity 1/2" to 3 1/2". Condition good	\$175.
No. 1 Cincinnati Cutter and Tool Grinder	150.
No. 15 Bryant Semi-Automatic Hole Grinder. Like new	900.
10"x30" Fraser Self-Contained Universal. Condition fair	375.
No. 190 Greenfield Universal Cutter and Tool. Condition good	150.
No. 5 Oliver Twist Drill, motor drive, capacity 1/4" to 2 3/4". Like new	450.
6"x32" Norton Plain Grinder. Condition good	400.
No. 10 Brown & Sharpe Plain Grinder, 6"x20". Condition good	125.
No. 11 Lumden Plain Ball Bearing, with cup wheel. New	275.

MILLERS

No. 6 Whitney Hand Miller. Condition good	\$150.
No. 10 Pratt & Whitney Hand Miller	150.
No. 3H LeBlond Plain Cone Type Miller. Like new	1300.
No. 0 Brown & Sharpe Plain Miller. Condition good	300.
No. 0 1/2 LeBlond Plain Miller	400.
No. 33 Kempamath—Lincoln Type—Miller	750.
No. 32 Kempamath Miller. Condition good	350.
Taft-Pierce Thread Miller	400.
Briggs Type A Miller, 16" table feed. Condition good	250.
No. 2 Knight Vertical Miller	600.

SAWS

No. 15 Lea-Simplex Type BB Cold Saw. Condition very good	\$600.
20" Silver Belt Drive Band Saw	65.
6" Napier Metal Band Saw	150.

TURRET LATHES AND SCREW MACHINES

No. 3 Warner & Swasey Plain Head Screw Machine	\$175.
Defiance Hand Screw Machine 16" swing, pan bed, friction head	350.
No. 6 Brown & Sharpe Turret Screw Mche. with roll fd. Condition good	800.
No. 2 Warner & Swasey Hollow Hex. Srew Machine	400.
1"x15" Pratt & Whitney Turret Screw Machine. Condition good	500.
No. 3 Foster Turret Lathe. Condition good	300.
No. 3 Foster Turret Lathe with auto. Chuck. Condition good	300.

MISCELLANEOUS

LaPointe (Hudson Mass.) Broaching Machine, with 2" diameter screw 48" long. Condition good	\$300.
4" Hurlburt-Rogens Cone Type Cutting-Off Mche. Condition very good.	250.
No. 425 Standard Fuel and Engineering Company High Speed Furnace, with heating space 9"x14"	75.
24" G. & E. Gear Hobber. Cap. 24"x10"x5", 6-pitch. Condition fair.	325.
18" Gleason Bevel Gear Generator. Condition good	800.
No. 6 Fellows Gear Shaper	500.
No. 5 Williams-White Drop Hammer. Weight of ram 600 lb.	350.
No. 1 Gray Sheet Metal Cutter, cap. 3/16"; depth of throat 34". Like new	400.
No. 1 National Acme Screw Slotter. Condition good	125.
12" Rochester Tooth Rounder	300.

Peninsular Machinery Co.

429-431 Jefferson Ave. E.,

DETROIT, MICH.

Lowest Prices-on-Record

Covered by
Full Guaranty

1-6' American Full Universal Radial Drill,
single pulley drive; latest type; present day
new value \$5600.; must be moved immediately.

\$1950.

DRILLS

- 1-4' Drees plain radial, single pulley drive.
- 1-12-spindle Baush heavy duty, multiple spindle.
- 1-No. 310 Baker heavy duty, single pulley drive.
- 1-No. 23 Foote-Burt heavy duty, single pulley drive.
- 1-36" Cincinnati-Bickford, sliding head, tapping attachment.
- 1-4-spindle Sipp ball bearing sensitive.

BORING MILLS

- 1-16' Niles vertical, table 14' diameter.
- 1-48" Gisholt vertical, one swivel, one turret head.
- 1-42" Bullard vertical, rapid traverse, one turret head, and 1 swivel head.
- 1-36" Bullard New Era type, vertical turret.
- 1-34" King vertical, one turret head.

LATHES

- 3-2x24 Jones & Lamson flat turret lathes.
- 5-3x36 Jones & Lamson flat turret lathes.
- 3-Hartness double spindle flat turret lathes.
- 1-24" Gisholt Turret Lathe, 2-step cone.
- 1-No. 33 New Britain automatic chucking machine.
- 1-12x5, 14x6, 16x8 Hendey, geared head engine lathes.
- 1-16x6' Lodge & Shipley tool room engine lathe.
- 1-18"x10' Lodge & Shipley selective head, s. p. d.
- 1-22"x12' Reed-Prentice, q. c. g., taper attachment.
- 1-20"x10' Reed-Prentice, q. c. g., taper attachment.
- 1-20"x16' Lodge & Shipley engine lathe.
- 1-24"x12' Reed-Prentice, geared head, latest type, taper attachment.
- 1-36"x8' Fay & Scott triple geared engine lathe.
- 1-42"x20' Pittsburgh triple geared, q. c. g., raising blocks to 60".
- 1-42"x30' Putnam geared head, a. c. motor drive, latest type.
- 1-50"x14' Pond triple geared, cone drive.
- 1-18"x36"x10' LeBlond sliding bed gap lathe.
- 1-24"x36"x14' LeBlond stationary bed gap lathe.

PLANERS

- 2-24"x24"x7' Cincinnati, one and two heads.
- 1-30"x30"x9' Ohio heavy duty, two rail heads.
- 1-42"x42"x14' Putnam planer, 4-heads, belt drive.
- 1-48"x48"x14' Patch heavy duty, box type table, 4-heads.
- 1-60"x60"x16' Woodward & Powell 4-heads, belt drive.

MILLERS

- 1-No. 4 Cincinnati high power, plain, geared head.
- 1-No. 3 LeBlond heavy duty, plain, geared head.
- 1-No. 3 Brown & Sharpe vertical, geared head.

SHEARS

- 1-No. 2 Long & Allstatter double-end punch and shear, 10" throat.
- 1-No. 510 Niagara rotary slitting and shear, 48" throat, $\frac{3}{4}$ " capacity.
- 1-No. 2 Ryerson rotary bevel, $\frac{1}{2}$ " capacity.

MISCELLANEOUS

- 3-Gear cutters, spur, Brown & Sharpe 48".
- 1-Grinder, 14x50 Norton plain, motor drive.

L. J. HOY

Associated Machine Tool Co., Inc.

OFFICE AND WAREHOUSE — 189 Seventh St., Brooklyn, N. Y.
Telephone, South 0717

Special Bargains for Summer

PRESSES AND PUNCHES

New Marshalltown, all sizes.
No. 4A Am. Can inclinable.
No. 5 Long & Allstatter single end
4" throat.

No. 32 Michigan solid back.
No. 93 Consolidated solid back.
Style E Rock River, 10" throat.

TURRET LATHES and SCREW MACHINES

21" Gisholt lathes, late type, (2).
21" Libbey, full swing, 4 1/8" hole.
No. 6 Foster friction hd., cheap, (2).
5 1/2" Cleveland auto. screw mch.
No. 1 Garvin hand screw mch., (3).

No. 4 Milholland screw mchs., (6).
2 1/2" Gridley multiple spindle.
Several 3/8" Cleveland automatic
screw machines, \$200.00 each.

GRINDING MACHINERY

6"x32" Norton plain.
14"x72" Norton plain.
16"x96" Landis plain.
16"x48" Landis, crank pin.

P. & W. vertical surface.
No. 3 1/2 Van Norman automatic
ball race grinder.
No. 85 Heald internal grinders, (2).

SHAPERS AND PLANERS

20" Kelly, back geared, new.
20" Rockford, bk. grd., rebuilt.
26"x 6' Pond planer, one head.
30"x 8' Ohio, heavy planer.

30"x10' Pond planer, cheap.
36"x15' Betts heavy pattern planer,
2 heads, bargain.

MISCELLANEOUS MACHINES

No. 3A High Speed hammer.
3/8" Grant rivet spinner.
No. 0 Mitts & M. keyseater.
No. 2 Davis keyseater.
Size B Jarecki die maker's arch.
screw press.
No. 513 Baker drill, 5" capacity.

Type NC Kobert dual head el.
riveter, 1/2 to 3/4" cap.
15" Dill slotter, like new.
Am. Can double seamer, 8" dia.
cans.
36" Cincinnati Bickford radial,
gear box.

The summer months are usually quiet, and we will make special prices on any of the above, or any other machine in our stock as an inducement to get your business.

Also have lathes, shears, drills, gear cutters, etc., in stock. What do you need?

A. D. White Machinery Co.

108-114 N. Jefferson St., Chicago, Ill.

Machine Tools Worth While

LATHES

16"x6' Hendey.
12"x5' Pratt & Whitney toolroom.
11"x4' Sidney.
14"x6' Hendey.
14"x6' Monarch.
16"x8' Springfield.
16"x6' Sidney.
18"x8' Hendey.
18"x6' Monarch.
18"x8' Lodge & Shipley.
20"x8' Monarch.
22"x10' Hamilton.

TURRET AND SCREW MCHS.

2—No. 1 Foster.
2—No. 2 Warner & Swasey P. H.
2—No. 2 Foster.
No. 3 Foster.
2—No. 4 Warner & Swasey P. H.
3—No. 4 Southwark P. H.
No. 24 New Britain
3—No. 6A Potter & Johnston.
2 1/4" Gridley 4-spd.
4 1/4" Gridley 1 spd. M. D.
2—Jones & Lamson, 2 spd.
3x36 Jones & Lamson, 1 spd.
2A Warner & Swasey universal.

MILLING MACHINES

No. 1 1/2 Brown & Sharpe univ.
No. 2B Hendey universal.
No. 2 1/2 LeBlond heavy universal.
No. 2 Cincinnati universal.
No. 2B Hendey plain.
2—No. 2 Cincinnati plain.
3—No. 3 Cincinnati A. G. plain.
3—No. 3 Cincinnati cone plain.
2—No. 4 LeBlond cone plain.
3—No. 2 Kemp Smith plain.
No. 3 Cincinnati A. G. vertical.
No. 6 Becker cone vertical.
No. D-1 Becker cone vertical.
No. 31 Lucas horizontal.
2—Hendey duplex horizontal.

GRINDERS

3—6x32 Norton plain.
No. 10 Brown & Sharpe plain.
No. 11 Brown & Sharpe plain.
12x36 Queen City plain.
6x36 Landis plain.

No. 2 Bath universal.
No. 2 Brown & Sharpe universal.
No. 3 Landis universal.
No. 15 Bryant internal.
No. 10 Bryant internal.
Worcester internal.
No. 6 Gardner disc.

DRILLS

24" Rockford 4-spd.
22" Rockford 2-spd.
65-D-5 Moline holehog.
26" Barnes A. G. motor driven.
No. 17 Foote-Burt 5-spd. rail drill.
4' Mueller radial.
3' Bickford radial.
6-spd. Allen H. S. b. b. drill.

MISCELLANEOUS

36 Lb. Bullard vertical boring mill, side head.
36x36x12' Bickett planer.
4—No. 1 Garvin vertical tappers.
3—No. 2 Garvin vertical tappers.
No. 1 Lambert horiz. boring mill.
No. 57 Toledo S. S. geared press.
No. 31 Lucas horiz. boring mill.
No. 496D Toledo toggle press.
10x10 Inger-Rand bolt air comp.
19x14 C. P. air compressor.
24x16 Bury air compressor.
1500 Lb. Chambersburg steam hammer.
2500 Lb. Chambersburg steam hammer.
7500 Lb. Chambersburg steam hammer.
10" Allis Chalmers centr. pumps.
14x16x16 Burnham steam vacuum.

PRESSES

No. 496D Toledo D A D. C. toggle press bolster 97x44.
No. 57 Toledo geared trimming press 6" stroke.
No. 68 Bliss D. A. press.
No. 24 Mich. grd. honing press.
No. 4 Walsh O. B. I. press.
No. 5 Toledo O. B. I. press.
No. 54 1/2 Toledo S. S. S. C. press.
No. 55 Toledo S. S. S. C. press and many others of all sizes.

The above is only a partial list—over 3000 machines in stock to pick from.
Send us your inquiries and get our detailed description covering.

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251 St. Aubin Ave.,
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Buy from the World's Largest Stock.
All Guaranteed. All in First Class
operating condition. All are real

BARGAINS

LATHES

- 1-56"-64"x18' Johnson.
- 2-36"x30' Pittsburgh Geared Hd.
- 1-30"x34"x12 L. & S. Sel. Hd.
- 1-26"x16' Bridgeford.
- 21-28"x10' Canada.
- 12-25"x12' LeBlond.
- 1-24"x12' Reed Prentice Grd. Hd.
- 9-24"x11' Cisco.
- 10-21"x10' LeBlond.
- 2-20"x 8' LeBlond.
- 1-18"x14' American Grd. Hd.
- 1-18"x14' Reed-Prentice Grd. Hd.
- 1-16"x 8' American Geared Head.
- 1-16"x 8' Monarch.
- 3-16"x 6' Walcott.
- 2-14"x 8' Pratt & Whitney.
- 2-14"x 8' Carroll-Jamieson.
- 2-14"x 6' Carroll-Jamieson.

MILLERS

- 2-No. 6 Becker Vertical.
- 1-No. 5-C Becker Vertical.
- 5-No. 3 Brown & Sharpe Vert.
- 1-No. 2B Milwaukee Vertical.
- 1-No. 3-B Milwaukee.
- 3-No. 3 Kempsmith Plain.
- 1-No. 2-H Hvy. Brown & Sharpe.
- 1-No. 3 Kempsmith Universal.
- 2-No. 33 Kempsmith.

PLANERS

- 1-72"x56"x36' Cincinnati.
- 1-60"x48"x30' Hamilton.
- 1-42"x42"x22' Niles-Bement-Pond.
- 2-36"x36"x18' Cincinnati.
- 1-36"x36"x12' Woodward & P.
- 1-36"x36"x12' Gray.
- 1-30"x30"x14' N. B. P.
- 1-30"x30"x 8' N. B. P.
- 1-24"x24"x6' Rockford.

PRESSES

- 1-96-G Toledo Double Crank.
- 2-No. 56 Ferracute.
- 1-No. 164 Toledo Toggle.

BORING MILLS—Vertical

- 5-72" Gisholt.
- 1-82" Gisholt.
- 1-48" Colburn.
- 1-24" Bullard Rapid Production.

BORING MILLS—Horizontal

- 1-No. 3A Universal.
- 1-No. 8 Giddings & Lewis.
- 1-No. 14 Beam & Smith.
- 1-No. 14 Giddings & Lewis.
- 5-No. 1 Barrett.
- 6-2" Bar Rockford.

DRILL PRESSES

- 1-No. 30 Natco.
- 1-28" Rockford.
- 1-28" Cincinnati-Bickford.
- 1-No. 513 Baker.
- 1-No. 24 Foote-Burt.
- 1-22" Barnes all geared.

SLAB MILLERS.

- 6-24"x24"x12' Ingersoll.
- 1-24"x24"x 8' Ingersoll.
- 1-24"x12"x20' Ingersoll.
- 1-32"x32"x12' Ingersoll.

GRINDERS

- 4-22" P. & W. Vert. Surf.
- 1-20"x96" Landis.
- 3-14"x50" Norton.
- 3-10"x72" Norton.
- 3-10"x36" Norton.
- 6-6"x32" Norton.
- 2-10"x24" Norton.
- 1-No. 70 Heald.

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CHICAGO, ILL.

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Guaranteed Tools At Bargain Prices

DRILLS

- 20" Rockford plain.
- 20" Lindgren all geared.
- 20" Cincinnati Bickford high speed.
- 21" Kokomo high speed, p. f., s. h.
- 22" Rockford, b. g., p. f.
- 24" Cincinnati, t. a., b. g., p. f., s. h.
- 25" Weigel, b. g., p. f., s. h.
- 26" Reed Prentice all geared, b. g., p. f., s. h.
- 28" Springfield b. g., p. f., s. h.
- 32" Superior, b. g., p. f., s. h.
- 24" Cincinnati Bickford radial.
- 3" American radial.
- 4, 5, 6, & 8" Western radial.
- 6" Dreses heavy radial.

GRINDERS

- 6x18", 10x20", 10x36" & 12x36" Landis.
- 6x32", 10x24", 10x36", 14x72" & 18x96" Norton.
- 10"x36" Thompson universal.
- 16"x48" Landis crankshaft.
- No. 75 Heald internal.
- No. 60 Heald cylinder.
- Nos. 1 & 3 Wilmarth & M. surface.
- 12"x12"x36" No. 2 Diamond surface.
- 24" No. 4 Gardner disc.
- 53" Gardner horizontal disc.

GEAR CUTTERS

- Nos. 3 & 12 Barber-Colman hobbers.
- 12", 18" & 24" Gould & E. hobbers.
- 48"x10" Gould & E. automatic.
- 26" & 36" Brown & Sharpe auto.
- No. 13 B. & S. auto. spur & bevel.
- No. 61 Fellows shaper.

LATHES, ENGINE

- 14"x 8" Hendey toolroom.
- 16"x 6" Walcott.
- 16"x 6" Hendey toolroom.
- 16"x 8" Lodge & Shipley.
- 17"x 8" Sidney.
- 18"x 8" Bradford.
- 20"x 8" LeBlond.
- 20"x10" Reed.
- 24"x10" Flather.
- 26"x16" Bridgeford.
- 36"x16" Johnston triple geared.
- 18"x10" Schumacher, Boye & E.

LATHES, TURRET

- 24" No. 2 A Warner & Swasey.
- 2" No. 1-B Foster, bar equipment.
- Nos. 2 & 4 Warner & Swasey.
- Nos. 2, 3 & 6 Foster.
- 21" & 24" Gisholt.
- 24"x36" Cincinnati Acme.
- 2", 24x24" & 3x36" Jones & Lamson.
- 24"x36" Greenlee flat turret.

MILLING MACHINES, PLAIN

- No. 20 Ohio.
- No. 2 Cincinnati.
- No. 2 Kempsmith.
- No. 2BS & 2B Milwaukee.
- No. 24 Rockford heavy duty.
- No. 24 LeBlond heavy duty.
- No. 3 Cincinnati.
- No. 3 Heavy Rockford, rectangular overarm.

- Nos. 2 & 3 Brown & Sharpe.
- No. 28 Ohio.

MILLING MACHINES, UNIV.

- Nos. 1, 2 & 3 Kempsmith.
- No. 1, 1 1/2, 2, 2-A & 3 Brown & Sharpe.
- No. 1 1/2 Valley City.
- No. 3 Ohio.

HORIZONTAL BORING MILLS

- 3 1/2" bar No. 34 Universal.
- 3" bar No. 31 Lucas.
- 3" bar Fostick.
- 3" bar No. 3-A Universal.
- 3" bar No. 1 Lucas.
- 2 1/2" bar No. 1 Cleveland.
- 2 1/2" bar No. 24 Universal.
- Rockford, with 3 1/2" spindle.

PUNCH PRESSES

- No. 1 Toledo o. b. i., 1" stroke.
- No. 2-C Consolidated o. b. i., 2" str.
- No. 3 Toledo o. b. i., 1 1/2" stroke.
- No. 4 Walsh o. b. i., 2 1/2" stroke.
- No. 41 Toledo horning, geared.
- No. 24 Stoll knee type, 2" stroke.
- No. DDG-54 Ferracute straight column, dbl. action, cam drawing.
- No. 4 Massillon s. s., geared.
- No. 66 Consolidated s. s., geared.
- No. 53 Toledo s. s., 6" stroke.
- No. 65 Consolidated s. s., 8" stroke.

PLANERS

- 28"x28"x 6" New Haven.
- 28"x28"x 8" Gray.
- 30"x30"x 8" Gray.
- 32"x32"x 8" Rockford.
- 32"x32"x12" Niles.
- 36"x36"x 8" Detrick & H. openside.
- 36"x36"x10" Cincinnati.
- 48"x48"x12" Pond.

SHAPERS

- 6" Pratt & Whitney vertical.
- 7" Rhodes.
- 14" Davis.
- 15" Steptoe.
- 16" Cincinnati.
- 16" Stockbridge.
- 20" Walcott.
- 20" Queen City.
- 25" Springfield.
- 30" Walcott.

MILES MACHINERY CO.

Saginaw, W. S., Mich.

NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$54.50; 5 H. P. \$65.50

LATHES

12"x 5' Cleveland, geared head.
14"x 6' Carroll-Jamieson, new, q. c.
14"x 6' Hamilton, grd. hd., motor dr.
14"x 6' Monarch, quick change.
14"x 6' Sebastian, grd. hd., m. d.
14"x 8' Sidney, double back geared.
14"x 6' Hamilton, style B.
16"x 6' Monarch, motor drive.

18"x10' American, quick change.
20"x 8' American, geared head.
20"x10' Hamilton, rapid production.
20"x10' Prentice, taper attachment.
22"x8" Graves & Klusman.
24"x12' Bradford.
24"x24' Prentice, with raising block.
34"x60" & 34"x60" Fitchburg, Lo-Swing.

TURRET LATHES and SCREW MACHINES

Acme 1" cap., wire feed column.
No. 4 Defiance, 1 1/2" capacity.
1 1/2" capacity Smurr & Kamen.
1 1/2" Milholland.

2x24 and 3x36 J & L.
No. 1 Foster, 15/16" capacity, (2).
Warner & Swasey No. 2.
No. 52 National Acme.

SHAPERS

14" Niles, traveling head.
14" Steptoe, crank.
16" American tool room.
16" O. & S., b. grd., new, low price.

16" Cincinnati b. g., motor drive.
16" Harker back geared crank.
24" O. & S. back geared crank.

PRESSES

No. 10 and No. 15 Excelsior, foot.
Nos. 5 and 6 Toledo, o. b. l.
Nos. 3-A & 5-A Willard inclinable.

Nos. 1 1/2, 2, 2 1/2 & 4 Robinson, new.
Emco, bench, for radio parts.

DRILLS and RADIALS

No. 1 Baush multiple.
Baush 10 spindle, arranged for 16.
Electric Drills, Black & Decker.
No. 4 Duntley electric.
22", 24", 26", 28" and 32", sliding hd.

6' Ceiling drill.
25" Kokomo high speed.
4-spindle Reed sensitive.
44" Stover.
Hole Hog, No. 66-D, 7-spindle.

MILLING MACHINES

No. 1 Kemp Smith universal, new.
No. 2 Kemp Smith plain.
No. 3 Kemp Smith plain, new.
No. 3 Cincinnati univer-al.
No. 5-C Becker, vertical.

No. 25 Becker plain, power feed.
No. 2 H Brown & Sharpe plain.
Oesterlein 24x7 1/2x18 plain.
Briggs "A" high duty, 24x8" table.
No. 7 Becker, Lincoln type.

GRINDERS

Nos. 1 & 78 W. & M. surface.
6"x15" Fitchburg plain.
12"x36" Cincinnati universal.
16"x42" Landis universal.
26" and 66" Vates plate.
No. 60 Heald cylinder.

Schmitt cylinder grinder.
No. 3 Ohio universal, tool and cut.
J. B. X. W. & M. tool and cutter.
No. 10 Besly 18" double disc.
No. 20 Bryant, chucking.

MISCELLANEOUS

Band saw, Clark, compound.
Band saws, Napier 4"x4", 10"x10".
Blower, No. 6 Pequa, pressure.
Blower, positive pressure, Leiman style 1, F.
Boring mill, Colburn No. 3, tur. hd.
Boring mill, Sellers 50" car wheel.
Boring mill, 72" column.
Boring mill, vertical, two heads.
Brake, 10', 18-gauge metal.
Broaching mchs., 1 and 3 LaPointe.
Compressors, 6x8, 8x8 and 9x8.
Drawing tables, adjust., 42"x6" top.
Gear cutter, No. 3-26 B. & S.
Gear miller, Bilton No. 1.

Hammer, No. 1 Pettingell.
Hammer, 150 lb. Standard drop.
Pipe machines, 2", 4" & 6".
Pumps, Gould triplex, 6"x8".
Punch & shear, 1 1/2"x10" throat.
Riveting hammers, High Speed Nos. 2, 3, 4 & 5-A.
Scale, 1500 lb. Toledo, dial type.
Shear, 60" Peck, Stow & W., 18 ga.
Shear, No. 362 Robinson.
Shear, No. 20 Quickwork, 30" throat.
Shear, circular, Pettingell, 60" thrt.
Tapping machine, Acme 6-spindle.
Threading mche., W. & P. 2-spindle.

OSBORNE & SEXTON
MACHINERY COMPANY
COLUMBUS OHIO

Dept. H.

Must Vacate Our Warehouse — Attractive Prices To Move Stock

BORING MILLS:	36" American.....	\$350.
	42" Bullard Vertical.....	850.
	64" Betts Vertical.....	650.
DRILLS:	12" Cincinnati Hi-speed.	
	20" Silver B. G.....	\$ 65.
	24" Weigel B. G.....	350.
	24" Sibley B. G.	
	36" Aurora.	
LATHES:	12"x5' Seneca Falls.....	\$ 90.
	18"x 8' 6" Prentice.	
	18"x 8' Pratt & Whitney.	
	24"x10' Putnam t. a.	
	24"x12' Reed, h. s.	
	24"x12' New Haven.	
	26"x16' Prentice taper attachment.	
	30"x18' Lodge & Shipley, m. d.	
	32"x18' Bridgeford geared head.	
	36"x17' Gleason Triple Geared.	
	42"x22' Niles-Bement-Pond, geared head.	
	24" Libby Turret.	
	24"x6' Gisholt Turret, 6¼" hol. spld.	\$850.
	Lewis Roll Lathes.	
	No. 1 U. S. Hand	\$110.
	No. 2M Cincinnati and No. 2 Kempanith Plain.	
MILLING MCHES.:	Canedy-Otto, hand power, ½"x½"	\$ 45.
	No. 5 Long & A., d. e., 10" throats, cap. ⅞" thru ⅞".	
	No. 45 Buffalo S. E. Punch & Shear.	
	Long & Allstatter, 12" throat, s. e.	
	Cleveland E. F., 36" throat.	
PUNCH & SHEAR:	No. 2 Hilles & Jones hor. punch, 8" throat.	
	Beatty s. e., 48" throat, capacity 1¼"x1¼".	
	No. 1 Wilmarth & Morman Surface.	
	No. 55 Heald Internal and No. 96 Ott Piston.	
	Bridgeport Knife & Drill.	
GRINDERS:	D. E. Emery, 10" wheels.....	\$ 25.
	28" Ohio Double Geared.....	\$300.
	30" Gould & Eberhardt.	
SHAPERS:		
MISCELLANEOUS:	Air Compressor, Chicago 12x14, cap. 275 cu. ft.	
	Blower, No. 2 Roots Rotary.	
	Bulldozer, No. 2 Williams-White.	
	Cold Saw, Nutter-Barnes, capacity 4½" round.	
	Crane, Panama Portable, 2½-ton	\$ 60.
	Crane, Browning 20-ton, 8-wheel locomotive.	
	Gear Cutter, No. 6 Brown & S., cap. up to 72"x13".	
	Hammers, 80 lb. Bradley.	
	Planers, Cincinnati 48"x44"x12' and 60"x60"x20'.	
	Planer, Cincinnati 42"x36"x12', 2 heads	
	Planer, Detrick & H. Openside, 96"x72"x26'.	
	Press, No. 3½ Bliss Toggle Drawing.	
	Riveters, Allen Portable Pneumatic; Nutcracker and	
	Hornshoe 8", 10", 12", 20" & 26" reach.	
	Saw, Sterling Hack, cap. 9"x9".	
	Upsetter, 3" National, iron bed.	

RUSSELL MACHINE COMPANY
1447 Oliver Building, PITTSBURGH, PA.

SIMMONS *New and Used* MACHINE TOOLS

ATTRACTIVE PRICES

MONEY BACK GUARANTEE

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Automatics

- 2—No. 2G Brown & Sharpe.
- 2—No. 0 Brown & Sharpe.
- 5—No. 00 Brown & Sharpe.
- 3—24" Gridley, 4-spindle.
- 6—9/16 Gridley, 4-spindle.
- 1—1" Gridley, 4-spindle.
- 9—24" Gridley single spindle.
- 2—34" Gridley single spindle.
- 4—44" Gridley single spindle.
- 1—No. 6-A Potter & Johnston.

Planers

- 1—72x72x16' D. & H. Openside.
- 1—60x60x26' D. & H. Openside.
- 1—62x62x14' Cincinnati, m. d.
- 1—42x42x12' Woodward-Powell.
- 1—36x36x20' Woodward-Powell.
- 1—36x36x12' N.-B.-P., 4 heads.
- 4—30x30x12' N.-B.-P., 2 heads.
- 1—26x26x6' Gray, heavy duty.
- 6—24x24x10' Whitcomb-Blaisdell.
- 1—24x24x8' Whitcomb-Blaisdell.
- 1—24x24x6' Powell hi-speed.

Millers

- 1—No. 5 Cincinnati intermittent fd.
- 1—No. 5 Cincinnati h. p. plain.
- 1—No. 4 Cincinnati h. p. plain.
- 1—No. 4 G LeBlond plain.
- 1—No. 3 Cincinnati h. p. plain.
- 1—No. 3-H LeBlond plain.
- 1—No. 3-A Brown & Sharpe plain.
- 1—No. 2 Hendey geared hd. plain.
- 1—No. 2—AS Milwaukee pl. new.
- 1—No. 1 Brown & Sharpe univ.
- 1—No. 14 Brown & Sharpe univ.
- 1—No. 2 Kempsmith universal.
- 1—No. 5 Brown & Sharpe vertical.
- 1—No. 4 Cincinnati vertical.
- 1—No. 4 Cincinnati intermittent fd.
- 1—No. 3 Cincinnati vertical.
- 1—No. 14-B Milwaukee vertical.
- 1—No. 24-B Milwaukee vertical.
- 1—Nos. 20 and 22 Garvin vertical.
- 2—24x24x6' Ingersoll.

Screw Machines

- 1—26" Libby Turret Lathe.
- 5—18" Libby Turret Lathes.
- 16—No. 4 Warner-Swasey turrets.
- 3—No. 2 Warner-S. Screw Mche.
- 5—2x26 Pratt & Whitney turrets.
- 1—34"x24" Gisholt turret.

Screw Machines — Cont.

- 3—3x36 Jones & Lamson.
- 1—No. 4 Mitholland 18x10.

Grinders

- 2—No. 16 Blanchard vertical.
- 1—14x86 Norton cylindrical.
- 1—16x48 Landis crankshaft.
- 3—14x50" Norton cylindrical.
- 6—6x32 Norton cylindrical.
- 1—14" Pratt & Whitney vertical.
- 1—30x84 Diamond face.
- 2—16x52 Landis plain.
- 5—No. 70 Heald internal.
- 5—No. 65 Heald Grinders.
- 5—No. 60 Heald Grinders.
- 1—No. 13 Brown & S. universal.

Drills

- 2—7" Western heavy duty.
- 1—6" Niles-Bement-Pond univ.
- 1—6" Bickford universal radial.
- 2—5" Western heavy duty.
- 2—4" Hammond plain.
- 1—5" N.-B.-P. semi-universal.
- 1—34" Cincinnati-Bickford, gr. box.
- 2—3" Mueller plain.
- 1—3" Western plain.
- 1—No. 32 Natco, multiple spindle.
- 1—No. 14 Natco, multiple spindle.
- 6—No. 13 Pratt & W. mult. spd.
- 1—No. 4 Bausch multiple spindle.
- 1—No. 1 Pratt & W., deep hole.
- 3—42" Cincinnati-Bickford, s. h.
- 2—32" Aurora, s. h.
- 2—26" Barnes, all-geared.
- 5—Four-spindle H. & W. b. b.
- 3—24" Cincinnati s. h., tapping.
- 1—3 spindle Allen, ball bearing.
- 1—3 spindle H. & W., ball-bearing.
- 1—No. 1-S Garvin duplex.

Miscellaneous

- 1—2" Acme Bolt Cutter.
- 1—8" Bignall-Keeler Pipe Machine.
- 1—Imperial Type XB Air Compr.
- 1—No. 4 LaPointe Broach.
- 1—No. 3 LaPointe Broach.
- 1—No. 3 Pratt-Whitney Die Sinker.
- 5—6" Gleason Gear Generators.
- 9—18" Gleason Gear Generators.
- 3—5-A Lees-Bradner Gr. Hobbers.
- 1—No. 13 Brown-S. Gear Cutter.
- 1—No. 6-A Cincinnati Gear Cutter.

Write For Pictorial News

Simmons Machine Tool Corp.

NEW YORK
149 Broadway

ALBANY
1212 Troy Road

BUFFALO
88 Exchange St.

LOOK—THESE—OVER

LATHES

16"x10' Cincinnati, q. c.
16"x 6' Hendey, q. c. g.
18"x 8' Bradford, q. c. g.
18"x 8' Reed-Prentice grd. hd.

19"x10' LeBlond, q. c. g.
38"x28' American, geared head.
26"x14' American, l. c. g.
46"x17' New Haven, triple geared.

MILLING MACHINES

No. 1½ Cincinnati universal.
No. 3 Cincinnati plain.
No. 5 LeBlond plain, motor drive.
No. 1½ Brown & Sharpe, plain.

No. 1½ American plain.
No. 3 Brown & Sharpe plain, (2).
No. 3 LeBlond plain.
No. 3 B. & S. vert., s. p. drive.

RADIALS AND DRILL PRESSES

3' Carlton, G type, gear box drive.
4' Fosdick, s. p. drive.
4' Bickford plain, cone drive.
6' Dreses, motor drive.

24" Hoefler, stationary head.
24" Aur-ra, sliding head.
26" Hoefler, stationary head.
1 and 2 spindle Allen, b. b. sensitive.

PUNCH PRESSES

No. 18 Bliss, o. b. inclinable, (4).
No. 2½ Consolidated, o. b. inc.
No. 3-A Willard, o. b. inc.
No. 21 Michigan horn press.
No. 2½ V. & O., open back inclin.
No. 3 Bliss, stiff back.
No. 31 Toledo, stiff back.
No. 17 Williams & White, 24" thr.

No. B Long & Allstatter, 18" thr.
No. 6 Whiting, single end, 12" thr.
No. 3 Bliss dble. crk., 36" bet. hous.
No. 6 Waterbury-Farrel, stiff back.
No. 1½ Bliss toggle draw. press.
No. 10½ Badger Punch and Shear.
No. 64 Consolidated s. s., 18" bet.
No. 15 Toledo, 18" throat, (2).

PLANERS AND SHAPERS

24"x 6' Powell, 1 head.
30"x 8' Cincinnati, 1 head.
48"x36"x12' Cincinnati, 2 heads.
24" Kelley shaper, b. g.
20" Cincinnati shaper, b. g.

17" Smith & Mills, b. g.
16" Smith & Mills, cone drive.
16" Ohio, b. g. shaper.
16" Rockford, b. g. shapers.
16" Gould & Eberhardt shaper.

GRINDERS

No. 60 Heald, long table, (2).
No. 60 Heald, short table.
Thompson universal grinder.
No. 2 Brown & S. surface grinder.
12x48 Safety surface grinder.

Newton tool and cutter grinder.
No. 1½ Cincinnati, t. and c. grinder.
No. 3 Ohio univ., t. and c. grinder.
No. 23 Landis, 16x42".
16x66 Queen City plain.

MISCELLANEOUS

Bending rolls, 48" Niagara.
Bolt cutters, 2½, 1½ & 1" Acme.
Boring mill, 30" Bullard, cone drive, turret head.
Boring mill, 36" Gisholt turret head, cone drive.
Boring mill, 42" Bullard vertical.
Boring mill, Fosdick 3" horizontal.
Boring mill, 10" Niles, 2 heads.
Brake, hand, 10" Robinson, 16 gauge.
Chain hoists, various sizes.
Hammer, steam, 500 lb. Niles.

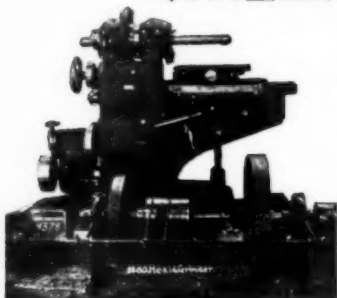
Gear cutter, No. 13 B. & S., spur & bevel.
Keyseater, No. 1 Baker.
Millers, hand, (6).
Presses, 30 & 50 ton Lucas forcing.
Press, 44" Wood hydraulic tire press.
Shear, 60" power square, 14 gauge.
Sheet metal cutter, No. 1 Gray.
Slotter, 10" Niles vertical.
Tooth rounder, 12" Ingle.
Turret lathe, No. 1B Foster univ.
Turret lathe, No. 2 W. & S. (2).

Send for Stock List No. 21

We Buy Modern Machine Tools—What Have You?

The Jones Machine Tool Co.
Front & Pike Sts., Cincinnati, Ohio

Ten No. 60 Heald Cylinder Grinders \$350⁰⁰ Each



Each Machine
is in good work-
ing order—
ready for good
work.

\$350⁰⁰

Each F. O. B.
Bridgeport, Conn.

We also have Four No. 65 Heald Grinders at \$500.00 each.
Send \$100.00 with order; pay balance on arrival and found as represented.

F. B. Lucas & Son, Inc., 3 FOX ST.,
Bridgeport, Conn.

We Look Beyond the Initial Transaction

Turret Lathe, 18" style A Libby.
Turret Lathe, No. 4 Warner & Swasey,
geared friction head.
Square Shear, 10' Bertsch, 14 ga. cap.
Shaper, 20" Rockford, back geared.
Screw Mach., No. 2 B. & O., geared
head with motor, capacity 1".
Screw Mach., No. 2 B. & S. auto., m. d.
Punch, S. E., 48" throat Rock River,
arch. jaw, motor dr., cap. 1 3/8" x 1".
Press, S. S., No. 37 1/2 Blim plain.
Press, No. 34 solid back geared.
Press, No. 21 B Blim, o. b. i., geared.
Planer, 72" x 12' Gray, two heads.
Planer, 36" x 32" x 12' Betts, 1 head.
Miller, vert., 40" Hilles & Jones.
Miller, thread, 6" x 80" P. & W.

Lathe, 36" x 17' American, geared hd.,
arranged for geared motor drive,
mechanical apron control.
Hammer, steam, 1100 lb. Niles-B.-P.,
single frame.
Grinder, 5" x 16" Modern cylinder.
Gear Cutter, No. 3 26" B. & S.
Drill, Radial No. 3 6' Bickford plain,
single pulley drive.
Drill, Multiple, No. 12 Natco, with
10" x 16" rectangular head.
Drill, Heavy Duty, No. 3-D Minster,
capacity 3 1/4".
Drill, Heavy Duty, No. 2 Baker, ca-
pacity 2 1/2".
Drill, all-gear gang, 24"—2 spindle
Barnes, with geared thread leading
feed for 11 1/2 pitch tap, auto. reverse
for tapping, 99 per cent new.

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- 1—Hendey No. 2G universal.
- 3—Cincinnati Nos. 1 $\frac{1}{2}$ & 2 Universal.
- 7—H. & S. Nos. 2A & 2 Universal.
- 4—Briggs "B" plain miller.
- 1—Briggs type "A" manufacturing.
- 2—Rockford No. 1 $\frac{1}{2}$, No. 2.
- 4—Cinti. Nos. 2, 3 & 4 pl., cone dr.
- 1—H. & S. Nos. 2, 2B, 3B, 4 plain.
- 1—B. & S. No. 13-B plain.
- 11—Becker Nos. 4B, 2H, 5C, C vert.
- 9—P. & W. 4 $\frac{1}{2}$ x12, 6x48, 6x80 thread.
- 4—Lees Bradner Nos. 4, 6 thread.
- 25—P. & W. No. 5 auto.
- 30—P. & W. No. 4 spline.

GEAR CUTTERS

- 7—H. & S. 3x36, 3x26, 4x36.
- 3—G. & E. No. 18-H.
- 20—Fellows Nos. 6, 61, 615.
- 20—Gleason bevel, 6", 11", 15".
- 5—Harber-Colman No. 3.

BORING MILLS

- 1—Bullard 24" New Era type.
- 1—Bullard 61" Maxi mill, m. d.
- 1—Bullard 24" rapid prod.
- 1—Cleveland No. 1 horizontal.
- 1—Colburn 54", 2 swivel heads.
- 1—Ridgeway 84" vertical, 2 heads..

SCREW MACHINES—Automatic

- 16—B. & S. Nos. 0, 2, 2G full auto.
- 14—Gridley 4-spindle 8", 12", 18", 7/16", 2 $\frac{1}{2}$ ".
- 2—Gridley 4 $\frac{1}{2}$ ", 3 $\frac{1}{2}$ " s. s.
- 3—Cleveland 8 $\frac{1}{2}$ ", 4", 3", 1 $\frac{1}{2}$ ", 2", 2 $\frac{1}{2}$ ".
- 7 $\frac{1}{2}$ " "A".
- 1—Cleveland 8 $\frac{1}{2}$ ", 7", 1 $\frac{1}{2}$ " "B".
- 1—New Britain 1 $\frac{1}{2}$ x7, 1x7 bar.
- 9—New Britain Nos. 24, 33.
- 2—National Acme Nos. 52, 54.

DRILLS—Multiple Spindle

- 1—Natco No. 11.
- 1—Natco No. 14.
- 2—Baush No. 2, 24-spindle.
- 1—Moline No. 5-D, 6-spindle.
- 12—P. & W. Nos. 11, 12, 13.

DRILLS—Upright and Radial

- 2—Colburn Nos. 2 and 4.
- 1—P. & W. No. 1 gun barrel.
- 2—New Turner No. 3 vertical.
- 6—Baker No. 310 and 314.
- 6—Cincinnati 24" sliding head.
- 1—American 4' univ. radial.

- 1—Baush 6' radial.
- 1—Niess-Bement-Pond 96" Ridge-way, m. d. pl. rad.

GRINDERS

- 1—Queen City 14x72 plain.
- 7—Norton 6x32, 10x36, 18x96.
- 4—B. & S. No. 11, 10 plain.
- 4—Cincinnati No. 2, 12x36.
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- 1—W. & M. No. 3 surface.
- 1—Persons & Arter 12" surface.
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- 1—Fitchburg 12x54.
- 1—Cincinnati No. 2 universal.
- 11—Bryant No. 20 chucking.
- 2—Bryant No. 15, dbl. spindle.
- 28—Heald Nos. 65, 60 and 70.
- 1—Van Norman No. 34.
- 2—Gidding & L. No. 12 teromatics.

LATHES

- 4—Seneca Falls 12x6, q. c. g.
- 3—Davis 12"x5', q. c. g.
- 5—American 14x6, 16x8, s. p. d.
- 1—Hendey 16x8.
- 10—New South Bend 15x5, 18x8 gap.
- 2—Mueller 18x8, q. c. g.
- 1—American 18x10, s. p. d.
- 3—LeBlond 26x10 duplex crank.
- 1—Bridgeford 26x12', q. c. g.
- 1—Greaves-Klusman 28x10.
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- 1—Bridgeford 32x26", geared head., s. p. d. or m. d.
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- 1—W. & P. 24x24x5, 1 head.
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- 1—Gray 38x38x20', 3 heads.
- 1—Putnam 48x48x12', 2 heads.

SHAPERS AND SLOTTERS

- 1—Columbia 25".
- 1—P. & W. 6" vertical.
- 3—Dill 15-18" slotters.
- 2—Stockbridge 16", 24".
- 2—Smith & Mills 16", 20".

MISCELLANEOUS

- 1—Bandsaw, Napier metal.
- 1—Keyseater, Baker.
- 1—Swage, Aetna No. 5-A.

- 25—HENDEY 12"x5' and 6' Q. C. G. Lathes
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26" Aurora, sliding head.

26" Prentice, sliding hd., sgl. pulley dr.

36" Mueller plain radial, cone drive.

36" Drees plain radial, cone or m. d.

42" Cincinnati-Bickford plain radial, gear box or motor drive.

48" Western plain radial, gear box or motor drive, (2).

LATHES

12"x4' Hendey geared head, motor driven, serial No. 16888.

14"x6' Hendey tie bar, taper attach.

16"x10 P. & W. gen. hd., motor dr.

18"x8' Prentice geared hd., motor dr., taper attachment, pan bed.

18"x10' Prentice geared head, motor driven, taper attach., pan bed.

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20"x8' Monarch, d. b. g., q. c., tap. att.

26"x10' Bridgeford, d. b. g., q. c., t. att.

MILLERS

Model B Becker vert., single pulley dr.

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No. 3 Cincinnati plain.

No. 4 Cincinnati universal.

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2" No. 300-A Oster, belt driven.

4" No. 304-A Oster, belt driven.

4" No. 304-B Oster, motor driven.

6" Eaton, Cole & Burnham, belt dr.

PLANERS AND SHAPERS

26"x26"x10' Gray, 1 head.

36"x36"x 8' Cincinnati, 2 heads.

7" Rhodes and 16" Kelly, cone drive.

20" Columbia, b. g., cone drive.

24" Kelly, b. g., cone drive.

24" Gould & E., b. g., cone drive.

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48"x40' Pond h. d., triple geared.
 42"x22' American geared head, q. c.
 36"x30' American geared head, q. c.
 36"x20' Niles h. d. triple geared.
 36"x12' Bridgford grd. hd., q. c.
 21"x12' LeBlond h. d., q. c.
 20"x10' Davis, h. d., q. c.
 16"x10' Hendey q. c.
 16"x 8' Springfield q. c.
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MILLERS

No. 3 Brown & Sharpe vertical.
 No. 5-C Becker vertical.
 No. 5-D Becker vertical.
 No. 1 Newton vertical.
 No. 7-H Becker Lincoln type.
 No. 2½ Hendey Lincoln type.
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 No. 3 Milwaukee plain.
 No. 21 Garvin plain.
 No. 20 Oesterlein plain.
 No. 25 Oesterlein universal.
 No. 29 Oesterlein universal.
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 No. 75½ Bliss trimming.
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 12"—100 ton pressure.

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60"x60"x18' Pond 2-heads.
 48"x48"x18' New Haven 1-head.
 48"x48"x 8' Sellers 1-head.
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 24"x24"x 8' Gleason 1-head.
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 F2 Newton planer centers.
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30" M. & H. guillotine, cap. 6"x6".
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6000 lb. Chambersburg d. f. steam.
 4000 lb. Niles d. f. steam.
 2500 lb. Chambersburg d. f. steam.
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 1500 lb. Niles s. f. steam.
 800 lb. Niles s. f. steam.
 3000 lb. Bliss board drop.
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 1000 lb. Union board drop.
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 400 lb. P. & W. board drop.
 80 lb. Bradley helve cushion.

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11 Waterbury and Manville Cold Headers, 3/16" to 1".
Long & Allstatter Size B Double End Punch, 18" throat each end.
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No. 3 Owens Full Universal Miller.....	1250.00	900.00
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No. 5 Bliss Punch Press.....	700.00	600.00
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16"x 9" Chard Lathe, q. c., 3-step cone, double back gear.....	400.
16"x 8" Hendey Lathe, q. c., taper, yoke head.....	750.
16"x 8" National Lathe, q. c., 3-step cone.....	350.
20"x12" Hendey Lathe, q. c., 4-step cone, taper, yoke head.....	1200.
24"x12" Carrol-Jamieson Lathe, semi-quick change, 3-step cone.....	400.
24"x10" Boye & Emmes Lathe, q. c., 3-step cone.....	850.
26"x12" Lodge & Davis Lathe, loose change, 5-step cone, taper.....	500.
4" Bickford Radial, single pulley drive.....	850.
3" Fosdick Radial, cone pulley.....	350.
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No. 2 Brown & Sharpe Plain Miller, cone.....	500.
No. 3-B Heavy Brown & Sharpe single pulley.....	1100.
No. 3 Brown & Sharpe Universal.....	1000.
No. 3 Brown & Sharpe Vertical, single pulley.....	850.
16" Lodge & Davis Plain Crank Shaper.....	175.
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16" Ohio Heavy Geared Crank Shaper.....	475.
24" Jackson Geared Crank Shaper.....	700.

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- 76" BULLARD Vertical, 2 heads.
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- 51" BULLARD Vertical, 2 heads.
- 42" BULLARD Vertical, 2 heads.
- 6' BICKFORD Radial Drill, single pulley or motor.
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- 24" STEINLE Turret Lathe, s. p. d., or motor drive, 6¼" hole.
- 24" GISHOLT Turret Lathe, belt drive, 6¼" hole.
- 42"x22' POND Heavy Duty Lathe, motor drive.
- 72"x13" BROWN & SHARPE Automatic Gear Cutter, s. p. d.
- 24"x24"x5' CINCINNATI Planer, 1 head.
- 4' JARECKI Pipe Threading Machine, dies 1 to 4".
- 72x72x20' NILES-BEMENT-POND Planer, motor drive, 4 heads.
- 60x60x16' WOODWARD & POWELL Planer, 4 heads.
- No. 5 BROWN & SHARPE Plain Miller, heavy duty type.

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- 1—Allen sgle., spdl, high speed.
- 6—No. 25 Foote-Burt heavy duty drill presses, 1 with comp. thl.
- 1—No. 2 Avey 2 sp., high speed.
- 3—Class K Henry & Wright 3-spindle, high speed.
- 2—Allen 2-spindle high speed.

PLANERS and SHAPERS

- 1—30"x30"x16' Gray planer, 3 heads, spiral gear drive.
- 1—20"x20"x5' Whitcomb planer, second belt drive, single head.

- 1—21" Smith & M. b. g. shaper.
- 1—16" Gould & E. shaper, bk. gr.
- 1—24" Hendey friction shaper.
- 1—16" Cincinnati bk. grd. shaper.
- 2—16" Whipp bk. geared shapers (brand new).

MISCELLANEOUS

- 1—No. 3 Barber-C. gear hobber.
- 1—No. 12 B. & S. plain grinder, capacity 8"x36", late type.
- 1—6"x80" P. & W. thread miller.
- No. 10 Brown & Sharpe plain grinder, capacity 6"x20".
- 1—42" Bullard vertical boring mill, 2 swivel heads.
- 1—Lucas horiz. boring, milling and drilling machine, 3" bar, single pulley drive.
- 1—No. 4 Warner & S. tur. screw mche., 1½" bar cap., bar feed attachment, power feed to tur. and cut off slide, 14 collets.
- 1—No. 1 Brown & Sharpe Wire Feed Screw Machine.

We have 500 other machines in stock. If you do not see it listed, send us your inquiry.

New Jersey Machinery Exchange
4 Orange St., Newark, N. J.

USED TOOLS

PARTIAL LIST

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Bullard 30" vertical.
Lucas 3" bar horizontal.
Universal 2½" bar horizontal.

Grinders

Modern No. 3 Universal, 13x40.
Norton Plain, 14x50.
Morse Plain, 8x40.
Wilmarth & Morman No. 3 Surf.
Oakley No. 2 Cutter & Tool.

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No. 4 R. & K. Inclined.
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Large Stock of Drills, Lathes, Screw Machines, etc.

Milling Machines

No. 12 Garvin plain.
No. 13 Garvin plain.
No. 1-B LeBlond plain.
No. 3 Kempsmith plain.
No. 34 Ohio plain.
Model C Becker vertical.
No. 2 Cincinnati vertical.
No. 3 Cincinnati vertical.

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36x36x10 Gray, 2 heads.
24x24 Cincinnati crank.

Shapers

14" Steptoe.
16" Kelly.

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EXCLUSIVELY

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- 1—No. 27 Bliss, 1000 tons, K. J.
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- 1—No. 65 Cons., geared.
- 1—No. 67 Consolidated 6" stroke.
- 3—No. 57 Toledo, geared, tie rod.
- 1—No. 56 Toledo, geared.
- 2—No. DG 55 Ferracute, geared.

TOGGLE PRESSES

- 1—No. 3¼ A Bliss.
- 3—No. 1½ Bliss, friction clutch.

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- 2—No. 5 Bliss, Stiles, geared.
- 1—No. 4 Bliss, Stiles, geared.
- 1—No. 4 Bliss, Stiles flywheel.
- 3—No. 23 V. & O. combination.

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- 1—No. 147 Toledo, grd. bed 30x20.
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- 2—No. 2A, 3A, 4A, Bliss.
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 Milling Machine, National No. 0.
 Milling Machine, Van Norman No. 1.
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Cincinnati,

Columbus

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 Two 42" Cincinnati Upright Drills, B. G. & P. F.,
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 One 5-spindle Allen High Speed Drill.
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 One 14"x72" Norton Plain Grinders.
 One No. 2 Cincinnati Plain Grinder.
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 One No. 2 Brown & Sharpe Vertical Miller.
 Other High Grade Equipment.

Morris Machinery Company, Inc.

93-115 Chestnut St.,

Newark, N. J.

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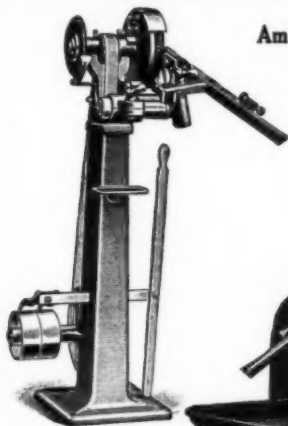
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Ottawa, La Salle County, Illinois

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